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ZOOPLANKTON VOLUMES OFF THE PACIFIC COAST, 1952

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UNITED STATES DEPARTMENT OF THE INTERIOR
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Explanatory Note

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Washington, D.C.
May, 1953

United States Department of the Interior, Douglas McKay, Secretary
Fish and Wildlife Service, Albert M. Day, Director

ZOOPLANKTON VOLUMES OFF THE PACIFIC COAST, 1952

Prepared by

The Staff of the South Pacific Fishery Investigations
U. S. Fish and Wildlife Service

Special Scientific Report: Fisheries No. 100

Zooplankton Volumes off the Pacific Coast, 1952

This report contains a record of the volumes of zooplankton taken on the survey cruises of the California Cooperative Sardine Research Program during 1952, along with information on the plankton hauls. The survey cruises, made monthly except during December, were numbered 33 through 43. Participating vessels included the CREST, E.W.SCRIPPS, HORIZON, PAOLINA T. and S.F.BAIRD of the Scripps Institution of Oceanography, the YELLOWFIN of the California Department of Fish and Game, and the BLACK DOUGLAS of the U. S. Fish and Wildlife Service. Two to four vessels took part in each cruise.

The plankton samples are used in studying the distribution and abundance of the eggs and larvae of the pilchard or sardine (Sardinops caerulea), and also in studying the productivity of pilchard spawning areas. The former problem is being investigated by the U. S. Fish and Wildlife Service, the latter by the Scripps Institution of Oceanography. Both investigations are directed toward determining the factors affecting the success or failure (good or poor survival) of year classes of pilchard.

The plankton hauls were made obliquely from approximately 140 meters deep (200 meters of wire out at greatest depth) to the surface. The hauls were made at a vessel speed of 1.5 to 2 knots. In taking a haul, the net was lowered to a depth of approximately 140 meters in about 4 minutes and then brought upward at the rate of 14 meters per minute (20 meters of wire retrieved).

The same type of plankton net has been employed since 1949. The net measures 1.0 meter in diameter at the mouth, by approximately 5 meters in length. The anterior section of the net, approximately a meter in length, is cylindrical; the longer posterior section conical. A cod-end bag is attached to the end of the net by a bronze coupling device. The body of the net is constructed of No. 30xxx grit gauze (a rugged grade of silk bolting cloth), the posterior 40 cms. of the cone and the cod-end bag of No. 56xxx grit gauze.

Each plankton net is provided with an Atlas-type current meter, held rigidly in the center of the mouth opening. The current meter consists of a rotator and a revolution counter housed in a cylindrical casing. Current meters were calibrated before and after each cruise on which they were used.

The volume of water strained in making a haul was determined from the formulation:

$$V = R \cdot a \cdot p$$

in which

a - the cross-sectional area of the mouth of the net in square meters.

p - length of the column of water in meters needed to effect one revolution of the current meter (determined from the appropriate current-meter calibration graph).

R - total number of revolutions registered by the current meter during a haul.

V - total volume of water strained in cubic meters.

The values for volume of water strained (in cubic meters), given in the following tables, were determined from current-meter readings, except for the few enclosed by parentheses, for which reliable current-meter data were lacking. For such hauls an approximate value of R was obtained which represented the average performance of the current meter at the speed and for the length of time of the tow.

The plankton volume of a sample was determined by displacement. The plankton was separated from its preserving liquor, allowed to drain, and then placed into a graduate containing a measured quantity of water. The increase in volume was assumed to be due entirely to the drained but still "wet" plankton. For comparability, the plankton volumes are expressed as the "wet volume" in cc. per 1000 cubic meters of water strained. The volumes are given under two headings: 1) total volume, and 2) the volume of smaller organisms remaining when jelly masses, fish, and larger mollusca, squid, crustacea, and the like were removed.

The following tables are designed to serve a twofold purpose: (1) to record the plankton volumes obtained on the survey cruises, and (2) to record pertinent data for all hauls made during 1952, including the location, date and time of collection, the volume of water strained (in cubic meters), and the estimated depth of the haul (in meters). They differ from the tables included in "Zooplankton Volumes off the Pacific Coast, 1951" (Special Scientific Report: Fisheries No. 73, 37 pp., May 1952) in two respects: (1) a column has been added giving the estimated depth of each haul, and (2) the unadjusted displacement volumes of the plankton have been omitted. However, the latter values may be computed from the data given in the tables.

These investigations are part of the California Cooperative Sardine Research Program, a program sponsored by the Marine Research Committee and carried out cooperatively by the Scripps Institution of Oceanography of the University of California, the Bureau of Marine Fisheries of the California Department of Fish and Game, the California Academy of Sciences, the Hopkins Marine Station of Stanford University and the South Pacific Fishery Investigations of the U. S. Fish and Wildlife Service.

Plankton Volumes, Cruise 33, January 1952

Sta.	Position N.lat.	Position W.long.	(1952) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
80.51	34°26.5'	120°32.5'	I-26	0404	0413	333	0-46	177	177
80.55	34°19'	120°48.3'	I-26	0626	0641	522	0-134	424	424
80.60	34°09.7'	121°09'	I-26	0956	1011	530	0-133	338	338
80.70	33°49.3'	121°50.1'	I-26	1632	1646	484	0-142	111	111
80.80	33°29'	122°33'	I-26	2206	2221	507	0-132	207	207
80.90	33°08.5'	123°13'	I-27	0451	0506	521	0-135	180	180
80.100	32°47'	123°55'	I-27	1056	1111	515	0-134	113	113
80.110	32°24'	124°39'	I-27	1748	1803	560	0-136	52	52
85.38	34°01.3'	119°03'	I-25	1829	1839	445	0-50	74	74
85.40	33°56.9'	119°10.6'	I-25	1611	1626	550	0-139	58	58
85.50	33°36.5'	119°53.6'	I-25	1046	1101	514	0-139	91	91
85.60	33°17'	120°33'	I-25	0451	0506	510	0-136	449	449
85.70	32°57'	121°14'	I-24	2255	2311	524	0-136	214	214
90.28	33°28.5'	117°46.7'	I-22	1511	1526	602	0-136	72	53
90.30	33°24'	117°55'	I-22	1617	1631	546	0-132	68	68
90.37	33°11'	118°24'	I-22	2041	2056	548	0-135	100	100
90.45	32°54.5'	118°56'	I-23	0255	0311	562	0-135	77	77
90.53	32°38.5'	119°29'	I-23	0811	0826	576	0-134	372	372
90.60	32°26'	119°57.5'	I-23	1231	1246	571	0-134	12	12
90.70	32°04.5'	120°39'	I-23	1851	1906	551	0-136	360	225
90.80	31°45'	121°19'	I-24	0046	0101	552	0-136	74	74
90.90	31°25.5'	121°58'	I-24	0806	0821	510	0-145	43	43
93.27	32°56'	117°19.5'	I-22	0855	0911	633	0-133	27	27
93.30	32°50'	117°31.5'	I-22	0451	0506	622	0-122	104	104
93.40	32°30.5'	118°07.8'	I-21	2315	2331	567	0-136	72	72
93.50	32°15'	118°55'	I-21	1616	1631	562	0-131	45	45
93.60	31°47'	119°37'	I-21	0854	0911	540	0-142	24	24
93.70	31°29'	120°14'	I-21	0206	0221	538	0-138	54	54
97.30	32°15.4'	117°08.8'	I-19	1559	1608	318	0-41	53	53
97.32	32°11.5'	117°17'	I-19	1737	1754	574	0-138	68	68
97.40	31°55'	117°50'	I-19	2326	2341	496	0-150	113	113
97.50	31°34.8'	118°29'	I-20	0550	0606	548	0-140	99	99
97.60	31°15'	119°13'	I-20	1256	1311	580	0-134	40	40
97.70	30°55'	119°51'	I-20	1926	1941	538	0-139	91	91
100.29	31°42.2'	116°43.4'	I-18	1957	2009	(411)	0-51	41	41
100.40	31°19.9'	117°23'	I-18	1526	1541	456	0-147	37	37
100.50	31°01.6'	118°04'	I-18	0956	1019	(940)	0-88	39	39
100.60	Occupied. No biological data taken								
100.70	30°21'	119°27'	I-17	2246	2301	637	0-101	108	108
100.80	30°01'	120°07'	I-17	1731	1747	676	0-88	40	40
100.90	29°40.3'	120°47'	I-17	1221	1236	630	0-111	30	30
105.32	30°44.7'	116°21.3'	I-16	0101	0114	490	0-55	29	29
105.35	30°38.4'	116°33.5'	I-16	0326	0342	583	0-124	91	91
105.40	30°28.8'	116°54'	I-16	0656	0711	518	0-130	44	44
105.50	30°12.7'	117°27'	I-16	1206	1221	480	0-141	23	23
105.60	29°48.5'	118°14'	I-16	1801	1816	495	0-140	34	34
105.70	29°29'	118°54'	I-16	2311	2326	503	0-134	107	82
105.80	29°07.2'	119°35'	I-17	0421	0436	518	0-125	62	62

Plankton Volumes, Cruise 33, January 1952 (cont'd)

Position			(1952)	Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	Total cc.	Sm.org. cc.
110.33	29°51'	115°52'	I-9	1009	1017	274	0-33	113	113
110.35	29°47'	116°00'	I-9	1256	1311	496	0-135	20	20
110.40	29°37'	116°19.5'	I-9	1720	1735	484	0-139	60	60
110.50	29°17	116°59'	I-9	2326	2341	490	0-139	102	102
110.70	28°36'	118°18'	I-10	2041	2056	484	0-136	109	52
110.80	28°18'	118°54'	I-11	0156	0211	432	0-142	37	37
110.90	28°00'	119°28'	I-11	0607	0621	440	0-140	41	41
115.27	29°12'	114°56'	I-12	1609	1617	262	0-40	19	19
115.35	28°58'	115°28'	I-12	1226	1241	466	0-136	43	43
115.40	28°45'	115°47'	I-12	0921	0936	510	0-130	27	27
115.50	28°21'	116°24'	I-12	0411	0426	455	0-140	103	55
115.60	28°05'	117°05'	I-11	2251	2306	456	0-142	81	81
115.70	27°45'	117°44'	I-11	1720	1734	450	0-136	60	60
120.25	28°22.5'	114°15.5'	I-12	2248	2255	241	0-34	33	33
120.30	28°13'	114°34'	I-13	0113	0124	340	0-56	41	41
120.35	28°03'	114°54'	I-13	0344	0352	233	0-40	69	69
120.45	27°43'	115°33'	I-13	0856	0911	504	0-131	99	99
120.50	27°32'	115°52'	I-13	1206	1221	467	0-147	75	75
120.60	27°12'	116°31'	I-13	1711	1726	425	0-152	33	33
120.70	26°52'	117°10'	I-13	2306	2321	460	0-146	98	98
120.80	26°32'	117°49'	I-14	0422	0436	448	0-141	116	116
120.90	26°10'	118°35'	I-14	0956	1011	434	0-154	67	67
123.37	27°23'	114°42'	I-15	2258	2308	317	0-48	38	38
123.40	27°22.5'	114°48'	I-15	1128	1141	383	0-74	78	78
123.50	27°03'	115°34'	I-15	0607	0621	469	0-145	32	32
123.60	26°38'	116°09'	I-15	0001	0016	486	0-145	117	117
127.34	26°55.5'	114°05'	I-16	0349	0356	241	0-37	33	33
127.40	26°46'	114°29'	I-16	0811	0826	493	0-148	67	67
127.50	26°21'	115°07'	I-16	1321	1336	471	0-139	49	49
127.60	26°00'	115°44'	I-16	1927	1941	447	0-138	65	65
130.30	26°15'	113°23'	I-18	1324	1331	213	0-36	56	56
130.35	26°10'	113°34'	I-18	1123	1136	424	0-68	78	78
130.40	26°10.5'	114°07'	I-18	0722	0736	463	0-137	164	164
130.50	25°49'	114°46'	I-17	2331	2346	483	0-147	97	97
130.60	25°29'	115°24'	I-17	1811	1826	476	0-143	103	103
130.70	24°54'	116°11'	I-17	1111	1126	488	0-142	68	68
130.80	24°35'	116°46'	I-17	0547	0601	444	0-142	56	56
133.25	25°59'	112°55'	I-18	1628	1641	391	0-70	187	187
133.30	25°55'	113°03'	I-18	1853	1906	392	0-73	151	151
133.40	25°35'	113°45'	I-19	0045	0100	438	0-148	187	187
133.50	25°19.5'	114°24'	I-19	0617	0631	447	0-145	150	150
133.60	24°51'	115°00'	I-19	1136	1151	450	0-153	85	85
137.23	25°36'	112°19'	I-20	1203	1214	356	0-56	56	56
137.30	25°23'	112°45'	I-20	0913	0926	350	0-80	123	123
137.40	25°00'	113°23.5'	I-20	0234	0249	444	0-147	146	146
137.50	24°41'	114°01.5'	I-19	2216	2231	507	0-145	290	260
137.60	24°20'	114°40'	I-19	0437	0451	444	0-143	38	38

Plankton Volumes, Cruise 34, February 1952

Position				Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
			(1952)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
80.51	34°26.8'	120°33.3'	II-20	0453	0506	480	0-62	3999	3999
80.55	34°19.3'	120°48.5'	II-20	0736	0751	534	0-132	2995	2995
80.60	34°09.5'	121°09.9'	II-20	1116	1131	502	0-140	239	239
80.70	33°50'	121°50.7'	II-20	1646	1701	518	0-132	181	181
80.80	33°30.6'	122°32.5'	II-20	2226	2241	488	0-141	268	268
80.90	33°09'	123°13'	II-21	0531	0546	572	0-129	218	218
80.100	32°53.1'	123°54.1'	II-21	1036	1051	497	0-138	66	66
85.38	34°02'	119°02'	II-19	2103	2116	441	0-67	147	147
85.40	33°57'	119°10'	II-19	1931	1946	544	0-135	105	105
85.50	33°37'	119°52.5'	II-19	1231	1246	625	0-117	122	122
85.60	33°19'	120°32'	II-19	0711	0726	450	0-141	639	639
85.70	32°58'	121°14'	II-19	0206	0221	535	0-121	333	333
90.28	33°28.5'	117°46.5'	II-16	1831	1846	506	0-141	73	73
90.30	33°24.4'	117°56'	II-16	2051	2106	538	0-139	76	76
90.37	33°11'	118°23.5'	II-17	0116	0131	484	0-139	83	83
90.45	32°54.5'	118°56.5'	II-17	0715	0731	514	0-138	45	45
90.53	32°39.7'	119°29'	II-17	1421	1436	467	0-140	75	75
90.60	32°25'	119°56'	II-17	2006	2021	526	0-131	133	133
90.70	32°04.5'	120°39'	II-18	0235	0251	506	0-142	63	63
90.80	31°45'	121°17'	II-18	0911	0926	451	0-140	69	69
90.90	31°25'	121°58.5'	II-18	1506	1521	516	0-137	23	23
93.27	32°56'	117°19'	II-11	1238	1251	455	0-63	11	11
93.30	32°52.6'	117°34.3'	II-11	1021	1036	596	0-124	64	32
93.40	32°30'	118°12.2'	II-11	0556	0611	530	0-128	60	60
93.50	32°10'	118°52.8'	II-11	0031	0046	488	0-141	164	164
93.60	31°48.3'	119°35'	II-10	1846	1901	502	0-137	183	183
93.70	31°28'	120°15'	II-10	1321	1336	447	0-149	116	116
97.30	32°15.2'	117°08.5'	II-9	0859	0907	326	0-35	40	40
97.32	32°11.5'	117°17.9'	II-9	1146	1201	522	0-137	130	38
97.40	31°58'	117°50.5'	II-9	1541	1556	490	0-144	987	987
97.50	31°35'	118°30.5'	II-9	2146	2201	464	0-147	93	93
97.60	31°15'	119°08'	II-10	0351	0406	590	0-111	113	113
97.70	30°56.2'	119°50.5'	II-10	0856	0911	477	0-137	63	63
100.29			Occupied. No biological data taken.						
100.30	31°40.9'	116°46'	II-9	0441	0456	542	0-124	102	102
100.40	31°20.6'	117°24'	II-8	2221	2236	505	0-137	123	73
100.50	30°56.1'	118°04.1'	II-8	1646	1701	527	0-132	30	30
100.60	30°45'	118°49'	II-8	1106	1121	544	0-131	46	46
100.70	30°12.1'	119°13'	II-8	0706	0721	505	0-143	38	38
100.80	29°51.5'	119°52.8'	II-8	0021	0036	495	0-139	67	67
100.90	29°30'	120°33.1'	II-7	1846	1901	554	0-131	72	72

Plankton Volumes, Cruise 34, February 1952 (cont'd)

Position			Time (PST)			Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
			(1952)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
105.32	30°43.5'	116°20'	II-6	0428	0442	482	0-68	31	31
105.35	30°38.2'	116°33'	II-6	0656	0711	505	0-139	61	61
105.40	30°30'	116°54.1'	II-6	1116	1131	496	0-142	50	50
105.50	30°06.5'	117°32'	II-6	1706	1721	535	0-130	19	19
105.60	29°48'	118°14.5'	II-6	2251	2306	469	0-144	53	53
105.70	29°26.3'	119°07'	II-7	0436	0452	512	0-139	70	70
105.80	29°05'	119°37'	II-7	0956	1011	463	0-141	30	30
110.33	29°51'	115°53'	II-6	1138	1151	467	0-64	47	47
110.35	29°48.1'	115°58.9'	II-6	1416	1431	529	0-136	38	38
110.40	29°36.5'	116°20'	II-6	1746	1801	517	0-131	39	39
110.50	29°16'	116°59'	II-6	2317	2331	457	0-140	72	72
110.60	28°55.7'	117°40'	II-7	0451	0506	495	0-135	71	71
110.70	28°36.5'	118°18'	II-7	1007	1021	453	0-138	27	27
110.80	28°17'	118°56'	II-7	1516	1531	498	0-135	34	34
110.90	27°56.5'	119°36'	II-7	2107	2121	448	0-142	58	58
113.30	29°22.5'	115°17.5'	II-9	0733	0740	199	0-29	91	91
113.35	29°12'	115°39'	II-9	0403	0418	468	0-139	66	66
113.40	29°05'	115°59.5'	II-9	0036	0051	467	0-140	79	79
113.50	28°43.1'	116°38'	II-8	1921	1936	474	0-140	55	55
113.60	28°23'	117°16.6'	II-8	1331	1346	498	0-140	32	32
113.70	28°05.8'	117°50.9'	II-8	0857	0911	486	0-133	39	39
117.26	28°56'	114°41'	II-9	1259	1306	227	0-35	22	22
117.30	28°48'	114°56.5'	II-9	1444	1453	307	0-44	33	33
117.35	28°38'	115°16'	II-9	1846	1901	505	0-129	46	46
117.40	28°28'	115°35.5'	II-9	2226	2241	437	0-139	64	64
117.50	28°08'	116°15'	II-10	0616	0631	477	0-141	55	55
117.60	27°46.3'	116°56.5'	II-10	1137	1151	493	0-141	35	35
117.70	27°24'	117°32'	II-10	1646	1701	486	0-138	72	72
120.25	28°23'	114°14'	II-12	2104	2111	224	0-34	36	36
120.30	28°13.5'	114°34'	II-12	1748	1759	311	0-56	61	61
120.35	28°02.5'	114°55'	II-12	1418	1428	255	0-54	20	20
120.45	27°43'	115°33'	II-12	0852	0906	422	0-144	64	64
120.50	27°30.8'	115°52.7'	II-12	0356	0411	493	0-144	69	69
120.60	27°13'	116°32'	II-11	2154	2208	520	0-134	56	56
120.70	26°52'	117°10'	II-11	1551	1606	488	0-143	72	72
120.80	26°35'	117°50'	II-11	0957	1011	481	0-141	64	64
120.90	26°14'	118°31'	II-11	0401	0416	489	0-138	55	55

Plankton Volumes, Cruise 34, February 1952 (cont'd)

Sta.	Position N.lat.	Position W.long.	(1952) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
123.37	27°23'	114°41'	II-14	0819	0828	295	0-52	37	37
123.40	27°19'	114°51'	II-14	0521	0536	497	0-145	76	76
123.50	27°01'	115°32'	II-13	2247	2301	422	0-145	57	57
123.60	26°44'	116°05'	II-13	1701	1716	496	0-131	28	28
127.34			Not occupied						
127.40			Not occupied						
127.50			Not occupied						
127.60	26°00'	115°48'	II-22	1751	1806	497	0-142	42	42
130.30	26°29'	113°29'	II-20	2214	2224	335	0-53	57	57
130.35	26°18.5'	113°49.5'	II-21	1356	1411	493	0-142	49	49
130.40	26°09'	114°07.5'	II-21	1717	1731	445	0-143	85	85
130.50	25°49'	114°46'	II-21	2356	0011	478	0-140	132	132
130.60	25°29'	115°24'	II-22	0816	0831	499	0-146	68	68
133.25	26°04.5'	112°48'	II-20	1654	1704	372	0-56	83	83
133.30	25°54.5'	113°09'	II-20	1312	1326	497	0-144	78	78
133.40	25°34.5'	113°45.5'	II-20	0652	0706	495	0-141	141	141
133.50			Occupied. Sample lost						
137.23	25°34.2'	112°18.7'	II-18	1432	1441	274	0-70	55	55
137.30	25°20'	112°45.5'	II-18	1811	1828	590	0-130	183	183
137.40	25°03.4'	113°25.8'	II-19	0426	0441	514	0-132	175	175
137.50	24°40'	114°02'	II-19	1356	1411	454	0-149	110	110
140.30	24°45.5'	112°24'	II-16	0848	0859	405	0-100	62	62
140.35	24°30'	112°43'	II-16	0501	0516	512	0-137	86	86
140.40	24°25.5'	113°02'	II-16	0101	0116	476	0-144	105	105
140.50	24°05'	113°39.5'	II-15	1841	1856	506	0-138	107	107
143.26	24°19'	111°48'	II-15	0223	0234	358	0-58	154	154
143.30	24°11'	112°03'	II-15	0541	0556	488	0-140	37	37
143.35	23°59'	112°18.5'	II-15	0917	0931	502	0-136	26	26
147.20	23°56'	111°03.5'	II-14	1928	1941	477	0-65	117	117
147.25	23°46.8'	111°23'	II-14	1446	1512	345	0-157	49	49
147.30	23°34.2'	111°44'	II-14	0907	0921	543	0-124	24	24
150.19	23°24.9'	110°40.5'	II-13	1111	1126	564	0-133	23	23
150.25	23°11.1'	111°03.2'	II-13	1431	1446	513	0-139	164	164
150.30	23°02'	111°20'	II-13	1811	1826	545	0-135	48	48
150.40	22°42'	111°57.5'	II-14	0011	0026	478	0-143	52	52

Plankton Volumes, Cruise 35, March 1952

Position			(1952)	Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	Total cc.	Sm.org. cc.
80.51	34°26.1'	120°33.5'	III-5	1137	1148	312	0-58	980	980
80.55	34°18.7'	120°48'	III-5	1341	1356	544	0-137	861	780
80.60	34°09'	121°09'	III-5	1854	1911	578	0-122	304	304
80.70	33°46.2'	121°50'	III-6	0111	0127	556	0-136	331	331
80.80	33°25'	122°33.5'	III-6	0706	0721	530	0-142	294	294
80.90			Occupied. No biological data taken						
80.100			Occupied. No biological data taken						
85.38	34°01.1'	118°57.8'	III-8	0231	0246	618	0-99	165	165
85.40	33°57.6'	119°11'	III-8	0046	0101	567	0-125	109	109
85.50	33°36.7'	119°52'	III-7	1928	1941	405	0-69	232	232
85.60	33°17'	120°33'	III-7	1441	1456	642	0-133	142	142
85.70	32°56.8'	121°14'	III-7	0641	0656	542	0-131	1365	1365
90.28	33°30.2'	117°46.5'	III-8	1209	1217	290	0-42	31	31
90.30	33°24.4'	117°55.7'	III-8	1256	1411	556	0-133	47	47
90.37	33°11'	118°23.5'	III-8	1741	1756	517	0-139	54	54
90.45	32°55.2'	118°56.4'	III-8	1036	1050	502	0-142	80	80
90.53	32°37.5'	119°31.1'	III-9	0346	0401	452	0-153	49	49
90.60	32°23.1'	120°01.5'	III-9	0756	0810	490	0-138	265	265
90.70	32°05'	120°39'	III-9	1341	1356	506	0-143	24	24
90.80	31°45.8'	121°19'	III-9	2024	2041	518	0-137	48	48
90.90	31°25'	121°59'	III-10	0256	0311	496	0-136	32	32
93.27	32°55.7'	117°19.2'	III-11	1718	1729	319	0-59	179	179
93.30	32°50'	117°31.5'	III-11	1506	1521	563	0-141	52	52
93.40	32°30'	118°10'	III-11	0856	0911	560	0-133	54	54
93.50	32°11'	118°53'	III-11	0331	0346	550	0-144	151	151
93.60	31°54.5'	119°36'	III-10	2056	2111	491	0-137	75	75
93.70	31°33'	120°22.5'	III-10	1356	1411	508	0-145	63	63
97.30	32°15.2'	117°08.9'	III-12	0434	0440	175	0-149	51	51
97.32	32°11.5'	117°17'	III-12	0731	0746	491	0-140	59	59
97.40	31°54.8'	117°51.6'	III-12	1206	1221	525	0-136	57	57
97.50	31°35.9'	118°30'	III-12	1726	1741	509	0-136	63	63
97.60	31°16'	119°10'	III-12	2306	2321	475	0-140	76	76
97.70	30°54.5'	119°48.1'	III-13	1326	1341	397	0-163	53	53
100.29	31°42.2'	116°43.4'	III-14	0250	0301	363	0-54	154	154
100.30	31°40.5'	116°46.5'	III-15	0151	0206	513	0-144	127	127
100.40	31°25'	117°27.6'	III-14	2026	2041	522	0-142	31	31
100.50	31°01'	118°02.1'	III-14	1416	1431	477	0-145	27	27
100.60	30°44.4'	118°48'	III-14	0831	0846	574	0-116	37	37
100.70	30°20'	119°25'	III-14	0306	0321	528	0-125	64	64
100.80	29°56.2'	120°04.8'	III-13	2121	2136	497	0-141	36	36
100.90	29°40.1'	120°47'	III-13	1536	1551	544	0-145	55	55
105.32	30°45.5'	116°20.7'	III-15	0922	0933	341	0-54	117	117
105.35	30°38'	116°33.4'	III-15	1156	1211	545	0-140	92	92
105.40	30°28.5'	116°54'	III-15	1611	1626	552	0-135	71	71
105.50	30°04'	117°34.5'	III-15	2206	2221	502	0-133	112	112
105.60	29°37.2'	118°14.7'	III-16	0501	0516	489	0-138	49	49
105.70	29°32.8'	118°50.2'	III-16	1316	1331	608	0-115	31	31
105.80			Not occupied						

Plankton Volumes, Cruise 35, March 1952 (cont'd)

Sta.	Position N.lat.	Position W.long.	(1952) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
110.35	29°45.5'	115°58'	III-15	1841	1856	512	0-139	59	59
110.40	29°36'	116°19'	III-15	2141	2156	488	0-142	94	94
110.50	29°17'	116°59'	III-16	0326	0341	473	0-140	70	70
110.60	28°54.5'	117°39'	III-16	0856	0911	567	0-137	56	56
110.70	28°36'	118°18'	III-16	1501	1516	519	0-139	46	46
110.80			Not occupied						
110.90			Not occupied						
113.30	29°22'	115°17'	III-15	1319	1325	263	0-35	600	600
113.35	29°07'	115°36'	III-15	1026	1041	523	0-139	99	99
113.40	29°03'	115°57'	III-15	0726	0741	504	0-140	22	22
113.50	28°44'	116°38'	III-15	0212	0225	454	0-139	64	64
113.60	28°23.5'	117°13.5'	III-14	2126	2141	510	0-139	98	98
117.26	28°54.2'	114°44'	III-13	2159	2206	182	0-38	160	160
117.30	28°48'	114°57'	III-14	0019	0027	343	0-49	44	44
117.35	28°36.5'	115°19'	III-14	0328	0341	424	0-69	85	85
117.40	28°27'	115°35'	III-14	0611	0626	519	0-144	50	50
117.50	28°08'	116°15'	III-14	1141	1155	462	0-135	61	61
117.60	27°49'	116°51'	III-14	1651	1706	509	0-137	75	75
120.25	28°21'	114°15'	III-13	1729	1736	242	0-38	8	8
120.30	28°13'	114°34'	III-13	1454	1501	242	0-42	157	157
120.35	28°03'	114°54'	III-13	1214	1221	280	0-41	132	132
120.45	27°40'	115°28.5'	III-13	0516	0531	486	0-148	123	123
120.50	27°30.5'	115°50.5'	III-13	0111	0126	462	0-142	65	65
120.60	27°13'	116°31.5'	III-12	1936	1951	514	0-139	82	82
120.70	26°52'	117°10'	III-12	1402	1416	495	0-135	99	99
120.80	26°30'	117°48'	III-12	0831	0846	396	0-149	61	61
120.90	26°13'	118°27.5'	III-12	0146	0201	504	0-140	44	44
123.37	27°24'	114°39'	III-10	2104	2112	273	0-45	110	110
123.40	27°18'	114°51.5'	III-10	2326	2341	520	0-144	98	98
123.50	26°58'	115°30.5'	III-11	0521	0536	536	0-131	75	75
123.60	26°37.5'	116°08.5'	III-11	1111	1126	520	0-133	27	27
127.34	26°55'	114°05'	III-10	1529	1536	249	0-40	64	64
127.40	26°43.2'	114°35'	III-10	1156	1210	490	0-132	90	90
127.50	26°23'	115°09'	III-10	0631	0646	859	0-151	60	60
127.60	26°03'	115°47'	III-10	0036	0051	480	0-147	83	83
130.30	26°29'	113°29'	III-9	0014	0021	265	0-42	246	246
130.35	26°19'	113°49'	III-9	0316	0331	498	0-150	58	58
130.40	26°08.5'	114°08'	III-9	0646	0701	494	0-145	127	127
130.50	25°49'	114°47'	III-9	1246	1301	468	0-145	107	107
130.60	25°29'	115°24'	III-9	1841	1856	530	0-132	70	70
133.25	26°04.5'	112°48'	III-8	1914	1921	260	0-40	461	461
133.30	25°54'	113°05'	III-8	1641	1656	458	0-144	168	168
133.40	25°34.5'	113°45.5'	III-8	1211	1226	514	0-138	136	136
133.50	25°14.5'	114°24'	III-8	0626	0640	496	0-135	117	117
137.23	25°33'	112°20'	III-7	1214	1222	314	0-41	261	261
137.30	25°20'	112°45'	III-7	1517	1531	505	0-137	305	305
137.40	24°58.5'	113°26.5'	III-7	1931	1946	469	0-146	139	139
137.50	24°39.8'	114°02'	III-8	0046	0101	480	0-139	142	142

Plankton Volumes, Cruise 35, Late March 1952

Position				Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
			(1952)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
113.30	29°22.5'	115°17.5'	IV-2	1548	1554	167	0-41	609	609
113.35	29°12'	115°39'	IV-2	1149	1204	475	0-146	93	93
113.40	29°02'	115°58.5'	IV-2	0748	0803	492	0-138	114	114
113.45	28°52'	116°18'	IV-2	0521	0536	467	0-137	73	73
113.50	28°42'	116°37.5'	IV-2	0136	0151	448	0-143	94	94
113.55	28°32'	116°57'	IV-1	2306	2321	451	0-151	209	209
113.60	28°22'	117°16.5'	IV-1	1946	2000	489	0-139	65	65
113.65	28°12'	117°35'	IV-1	1717	1732	504	0-137	50	50
113.70	28°02'	117°55.5'	IV-1	1402	1417	477	0-141	46	46
117.26	28°56'	114°41'	III-31	0553	0601	304	0-63	59	59
117.30	28°48'	114°56.5'	III-31	0758	0807	304	0-85	289	289
117.35	28°38'	115°17'	III-31	1108	1123	464	0-145	80	80
117.40	28°28'	115°35.5'	III-31	1338	1353	480	0-141	58	58
117.45	28°18'	115°55'	III-31	1705	1720	491	0-136	57	57
117.50	28°08'	116°15'	III-31	1936	1951	481	0-144	48	48
117.55	27°57'	116°35'	III-31	2256	2311	459	0-148	65	65
117.60	27°47.5'	116°54'	IV-1	0136	0151	464	0-143	349	349
117.65	27°38'	117°13'	IV-1	0456	0511	501	0-135	98	98
117.70	27°27.5'	117°32.5'	IV-1	0734	0749	469	0-140	81	81
120.25	28°23'	114°14.5'	III-31	0143	0150	228	0-56	158	158
120.30	28°13'	114°34'	III-30	2303	2310	269	0-70	275	275
120.35	28°03'	114°54'	III-30	2016	2024	292	0-69	192	192
120.40	27°55.5'	115°16'	III-30	1804	1808	145	0-33	48	48
120.45	27°43'	115°33'	III-30	1436	1451	499	0-140	60	60
120.50	27°33'	115°52.5'	III-30	1111	1126	473	0-142	40	40
120.55	27°23'	116°12'	III-30	0823	0838	489	0-142	53	53
120.60	27°13'	116°31.5'	III-30	0601	0616	516	0-135	52	52
120.65	27°03'	116°50'	III-30	0209	0224	474	0-140	80	80
120.70	26°52.5'	117°10'	III-29	2245	2300	496	0-140	145	145
120.80	26°32.5'	117°48.5'	III-29	1706	1721	509	0-135	63	63
120.90	26°13'	118°27.5'	III-29	1006	1021	501	0-139	30	30
123.37	27°24'	114°39.7'	III-28	0503	0510	259	0-46	386	386
123.40	27°18'	114°51.5'	III-28	0701	0716	471	0-134	148	148
123.45	27°08'	115°11'	III-28	1046	1101	465	0-142	56	56
123.50	26°58'	115°30.5'	III-28	1307	1322	483	0-141	122	122
123.55	26°48'	115°50'	III-28	1623	1638	495	0-137	129	129
123.60	26°38.5'	116°09'	III-28	1856	1911	490	0-137	88	88
127.34	26°55.3'	114°06'	III-28	2353	0000	237	0-60	126	126
127.40	26°43.5'	114°29.5'	III-27	2001	2016	459	0-141	235	235
127.45	26°30'	114°27'	III-27	1736	1751	487	0-134	148	148
127.50	26°23.5'	115°08'	III-27	1421	1436	454	0-139	77	77
127.55	26°14'	115°27'	III-27	1111	1126	475	0-141	135	135
127.60	26°03.5'	115°46.5'	III-27	0731	0746	488	0-135	27	27

Plankton Volumes, Cruise 35, Late March 1952 (cont'd)

Position			(1952)	Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	Total cc.	Sm.org. cc.
130.30	26°29'	113°29'	III-26	0648	0655	290	0-59	76	76
130.35	26°19'	113°48.5'	III-26	0916	0931	495	0-130	77	77
130.40	26°09'	114°07.5'	III-26	1206	1221	473	0-141	142	142
130.45	25°59'	114°27'	III-26	1621	1636	496	0-137	151	151
130.50	25°49'	114°46'	III-26	1852	1907	491	0-135	313	313
130.52	25°44'	114°56'	III-26	2122	2137	511	0-133	174	174
130.55	25°40'	115°05'	III-26	2252	2307	481	0-141	102	102
130.60	25°29'	115°24'	III-27	0126	0141	483	0-140	118	118
133.25	26°04.5'	112°48'	III-26	0113	0120	260	0-64	146	146
133.30	25°54.5'	113°07.5'	III-25	2157	2208	344	0-103	145	145
133.35	25°44'	113°26'	III-25	1921	1936	503	0-136	111	111
133.40	25°34.5'	113°45.5'	III-25	1611	1626	513	0-135	105	105
133.45	25°25'	114°04'	III-25	1326	1341	519	0-140	256	256
133.50	25°13'	114°21'	III-25	1010	1026	634	0-119	74	74
133.60	24°54.5'	115°01.5'	III-25	0356	0411	496	0-135	73	73
137.23	25°34.2'	112°18.7'	III-23	2137	2144	284	0-61	267	267
137.30	25°20'	112°45.5'	III-24	0114	0128	499	0-134	208	208
137.40	25°00'	113°23.5'	III-24	0958	1013	492	0-140	210	210
137.45	24°50'	113°43'	III-24	1414	1429	508	0-141	71	71
137.50			Occupied. Sample spoiled						
137.60	24°20'	114°39.5'	III-24	2216	2231	502	0-139	40	40

Plankton Volumes, Cruise 36, April 1952

Position			Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
		(1952)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
60.55	37°47.5'	123°15'	IV-6	0658	0711	512	0-62	351	351
60.60	37°37'	123°37'	IV-6	0336	0351	587	0-116	579	579
60.70	37°19'	124°21'	IV-5	2146	2201	468	0-138	2330	2330
60.80	37°02'	125°01.1'	IV-5	1721	1736	616	0-103	269	269
60.90	36°36'	125°47.5'	IV-5	1131	1146	563	0-122	753	753
63.52	37°19'	122°36.2'	IV-7	1549	1557	412	0-37	320	320
63.55	37°14'	122°49.5'	IV-7	1346	1402	633	0-129	291	291
67.50	36°49'	122°04.6'	IV-7	2033	2046	469	0-69	245	245
67.55	36°39.5'	122°25.8'	IV-8	0026	0040	497	0-150	271	271
70.55	36°03'	122°02'	IV-8	0636	0651	514	0-140	202	202
70.60	35°48.8'	122°24'	IV-8	0956	1011	511	0-146	431	431
70.70	35°31.4'	123°11'	IV-8	1531	1545	569	0-126	583	583
70.80	35°14.2'	123°48'	IV-8	2136	2151	531	0-130	247	203
70.90	34°53.5'	124°30'	IV-9	0316	0331	596	0-125	272	272
73.50	35°37'	121°16.6'	IV-4	0929	0937	317	0-38	133	133
73.60	35°18.2'	121°57.6'	IV-4	1531	1546	493	0-132	205	205
77.50	35°04.4'	120°52'	IV-4	0108	0121	457	0-68	147	147
77.55	34°54.5'	121°13'	IV-4	0421	0436	551	0-131	218	218
80.51	34°26.3'	120°32.5'	IV-10	2213	2224	347	0-49	961	961
80.55	34°19.5'	120°47.7'	IV-10	1956	2011	540	0-143	341	326
80.60	34°08.2'	121°09.5'	IV-10	1631	1646	511	0-144	352	294
80.70	33°50.8'	121°50.5'	IV-10	1041	1056	513	0-140	78	78
80.80	33°30.2'	122°31.2'	IV-10	0455	0511	585	0-139	176	176
80.90	33°08'	123°12.5'	IV-9	2311	2326	510	0-144	270	270
80.100	32°50.7'	123°54.1'	IV-9	1711	1726	528	0-139	867	867
83.55	33°44.1'	120°24'	IV-11	0336	0351	535	0-135	204	204
83.60	33°33.6'	120°44.5'	IV-11	0711	0726	493	0-141	146	146
83.70	33°16.1'	121°27.6'	IV-11	1321	1336	610	0-131	328	328
83.80	32°55'	122°06.1	IV-11	1901	1916	565	0-136	60	60
83.90	32°36.4'	121°46.8'	IV-12	0326	0341	600	0-130	145	120
87.35	33°50'	118°37.5'	IV-13	1511	1526	581	0-110	193	193
87.40	33°40.5'	118°59'	IV-13	1231	1246	538	0-126	175	175
87.50	33°20.3'	119°39.5'	IV-13	0734	0742	290	0-39	252	252
87.60	32°55'	121°17.1'	IV-13	0141	0156	477	0-138	189	189
87.70	32°37'	121°01.9'	IV-12	2011	2026	483	0-139	104	79
87.80	32°19.3'	121°43.6'	IV-12	1501	1516	440	0-141	91	71
87.90	32°02'	121°23'	IV-12	0846	0901	518	0-134	332	270

Plankton Volumes, Cruise 36, April 1952 (cont'd)

Position				Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
			(1952)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
90.28	33°28'	117°47.5'	IV-1	2156	2210	455	0-141	213	213
90.30	33°24.5'	117°55'	IV-1	2256	2310	564	0-138	147	147
90.37	33°10.5'	118°23.5'	IV-2	0251	0306	531	0-137	136	136
90.45	32°54.5'	118°56'	IV-2	0737	0750	442	0-146	154	154
90.53	32°39'	119°28.5'	IV-2	1226	1241	454	0-177	66	66
90.60	32°27'	119°53.5'	IV-2	1621	1636	487	0-150	72	72
90.70	32°04'	120°39'	IV-2	2255	2311	489	0-147	80	80
90.80	31°46.5'	121°19'	IV-3	0531	0546	533	0-140	21	21
90.90	31°25'	121°59'	IV-3	1136	1151	506	0-127	28	28
90.100	31°05'	122°39'	IV-3	1702	1716	470	0-138	32	32
93.27	32°55'	117°19'	IV-5	0856	0910	507	0-122	138	138
93.30	32°50'	117°31.5'	IV-5	0657	0711	451	0-133	149	149
93.40	32°30'	118°12.5'	IV-5	0231	0246	455	0-141	171	171
93.50	32°10'	118°54'	IV-4	2056	2110	449	0-140	67	67
93.60	31°52'	119°30'	IV-4	1646	1700	463	0-128	50	50
93.70	31°33'	120°16'	IV-4	1131	1145	465	0-141	49	49
93.80	31°12'	121°00'	IV-4	0522	0535	426	0-159	40	40
93.90	30°51'	121°36.5'	IV-4	0106	0121	487	0-150	60	60
97.32	32°10.5'	117°16.5'	IV-6	1356	1411	452	0-129	102	102
97.40	31°55'	117°50.5'	IV-6	1832	1845	452	0-130	86	86
97.50	31°35'	118°31'	IV-7	0026	0041	470	0-139	96	96
97.60	31°12'	119°08.5'	IV-7	0512	0525	434	0-143	72	72
97.70	30°51'	119°51'	IV-7	1026	1040	466	0-133	69	69
97.80	30°35'	120°31'	IV-7	1536	1551	463	0-132	45	45
97.90	30°15'	121°11'	IV-7	2111	2125	445	0-146	47	47
100.29	31°42'	116°44'	IV-9	1759	1811	376	0-66	406	406
100.30	31°40.5'	116°45'	IV-9	1657	1710	470	0-126	198	198
100.40	31°19'	117°25'	IV-9	1209	1224	392	0-149	74	74
100.50	30°58'	118°05'	IV-9	0522	0535	430	0-140	86	86
100.60	30°41'	118°47.5'	IV-9	0021	0036	444	0-142	59	59
100.70	30°20.5'	119°27'	IV-8	1916	1930	425	0-142	68	68
100.80	30°01'	120°07'	IV-8	1426	1441	441	0-142	48	48
100.90	29°40'	120°47'	IV-8	0926	0941	458	0-145	68	68
100.100	29°20'	121°27'	IV-8	0341	0355	454	0-149	79	79
103.30	31°04.5'	116°26.5'	IV-9	2224	2234	300	0-56	113	113
103.35	30°55.5'	116°45'	IV-10	0056	0111	426	0-140	190	190
103.40	30°46'	117°06'	IV-10	0401	0415	427	0-136	75	75
103.50	30°26'	117°45.5'	IV-10	0901	0915	446	0-132	128	128
103.60	30°06'	118°24.5'	IV-10	1416	1431	449	0-141	58	58
103.70	29°46'	119°05.5'	IV-10	2011	2026	444	0-141	63	63
103.80	29°27'	119°45'	IV-11	0131	0146	436	0-144	46	46
103.90	29°06'	120°25'	IV-11	0955	1011	461	0-146	39	39

Position			(1952)	Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	Total cc.	Sm.org. cc.
107.32	30°25.5'	116°12'	IV-12	1801	1815	441	0-140	136	136
107.35	30°19'	116°21.5'	IV-12	1557	1610	447	0-132	103	103
107.40	30°05.5'	116°43'	IV-12	1221	1236	454	0-143	70	70
107.50	29°48.5'	117°23'	IV-12	0716	0730	411	0-148	83	83
107.60	29°32'	118°03'	IV-12	0221	0236	416	0-144	106	106
107.70	29°13.5'	118°45'	IV-11	2126	2141	449	0-142	71	71
107.80	28°53'	119°27.5'	IV-11	1602	1616	441	0-135	34	34
110.33	29°49.5'	115°54'	IV-12	2226	2241	465	0-139	32	32
110.35	29°46.5'	116°00'	IV-13	0011	0026	464	0-144	168	168
110.40	29°36.5'	116°19.5'	IV-13	0316	0331	434	0-144	111	111
110.50	29°16.5'	116°59'	IV-13	0841	0856	459	0-136	194	194
110.60	28°53.5'	117°38'	IV-13	1331	1346	474	0-137	116	116
110.70	28°36'	118°18'	IV-13	1852	1906	457	0-135	57	57
110.80	28°16.5'	118°57.5'	IV-13	2346	0001	454	0-144	62	62
110.90	27°57.5'	119°35'	IV-14	0527	0540	426	0-148	87	87
113.30	29°22.5'	115°17.5'	IV-15	0826	0831	214	0-35	1217	1217
113.35	29°12'	115°39'	IV-15	0326	0341	467	0-140	88	88
113.40	29°02'	115°58.5'	IV-14	2211	2226	444	0-151	65	65
113.50			Not occupied						
113.60	28°21'	117°18.5'	IV-14	0521	0536	470	0-132	57	57
113.65	28°12'	117°36'	IV-14	0237	0251	467	0-137	101	101
113.70	28°02'	117°55.5'	IV-13	2256	2311	458	0-142	63	63
117.26	28°56'	114°41'	IV-12	1537	1546	253	0-70	99	99
117.30	28°48'	114°56.5'	IV-12	1825	1833	251	0-70	267	267
117.35	28°38'	115°16'	IV-12	2126	2141	459	0-138	41	41
117.40	28°28'	115°35.5'	IV-12	2351	0006	466	0-138	79	79
117.45	28°18'	115°55'	IV-13	0321	0336	451	0-141	38	38
117.50	28°09'	116°16.5'	IV-13	0601	0616	482	0-139	25	25
117.55	28°02.5'	116°35'	IV-13	0922	0936	440	0-140	34	34
117.60	27°47'	116°56'	IV-13	1146	1200	449	0-138	60	60
117.65	27°38'	117°12'	IV-13	1411	1426	465	0-140	19	19
117.70	27°27.5'	117°32.5'	IV-13	1636	1651	490	0-140	53	53
120.25	28°23'	114°14.5'	IV-12	1024	1029	165	0-39	6	6
120.30	28°13'	114°34'	IV-12	0723	0730	268	0-70	86	86
120.35	28°03'	114°54'	IV-12	0436	0443	235	0-62	115	115
120.40	27°57'	115°14'	IV-12	0209	0213	150	0-22	114	114
120.45	27°43'	115°33'	IV-11	2206	2221	457	0-139	55	55
120.45	27°43'	115°33'	IV-15	1856	1911	493	0-139	83	83
120.50	27°31.3'	115°53.5'	IV-11	1836	1851	463	0-141	106	106
120.55	27°23'	116°12'	IV-11	1606	1620	454	0-137	22	22
120.60	27°13'	116°31.5'	IV-11	1203	1218	452	0-141	20	20
120.65	27°03'	116°51'	IV-11	0934	0948	466	0-137	26	26
120.70	26°52.5'	117°10'	IV-11	0553	0608	469	0-142	60	60
120.80	26°32.5'	117°48.5'	IV-10	2331	2346	483	0-147	39	39
120.90	26°12'	118°25'	IV-10	1751	1806	476	0-140	21	21

Plankton Volumes, Cruise 36, April 1952 (cont'd)

Position				Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
			(1952)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
123.37	27°24'	114°41'	IV-9	1153	1200	212	0-55	250	250
123.40	27°18'	114°51.5'	IV-9	1341	1356	454	0-143	51	51
123.40E	27°17'	114°51.5'	IV-16	0142	0156	466	0-143	45	45
123.45	27°08'	115°11'	IV-9	1706	1721	474	0-139	70	70
123.45E	27°08'	115°10.7'	IV-15	2313	2328	472	0-139	91	91
123.50	26°58'	115°30.5'	IV-9	1936	1951	478	0-135	94	94
123.55	26°48'	115°49.7'	IV-9	2301	2316	476	0-142	86	86
123.60	26°38.5'	116°09'	IV-10	0118	0133	497	0-137	66	66
127.34	26°55.3'	114°06'	IV-9	0639	0646	255	0-62	255	255
127.40	26°43.5'	114°29.5'	IV-9	0235	0250	454	0-142	174	174
127.45	26°33'	114°49'	IV-9	0001	0016	434	0-144	279	279
127.50	26°23.5'	115°08'	IV-8	2011	2026	476	0-141	103	103
127.55	26°14'	115°27'	IV-8	1746	1801	484	0-141	60	60
127.60	26°04'	115°46'	IV-8	1436	1451	490	0-140	29	29
130.30	26°29'	113°29'	IV-7	1315	1322	244	0-65	70	70
130.35	26°19'	113°48.5'	IV-7	1606	1621	494	0-135	49	49
130.40	26°09'	114°07.5'	IV-7	1916	1930	479	0-139	106	106
130.45	25°59'	114°26.5'	IV-7	2341	2356	451	0-145	169	142
130.50	25°49'	114°46'	IV-8	0217	0232	466	0-143	189	189
130.55	25°40'	115°05'	IV-8	0541	0556	485	0-140	103	103
130.60	25°26'	115°25'	IV-8	0804	0819	482	0-140	73	73
133.25	26°04.5'	112°48'	IV-7	0748	0755	260	0-62	158	158
133.30	25°55.5'	113°06.5'	IV-7	0421	0436	496	0-141	222	222
133.35	25°44'	113°26.5'	IV-7	0151	0206	473	0-139	91	91
133.40	25°34.5'	113°45.5'	IV-6	2221	2236	500	0-149	120	120
133.45	25°24.5'	114°05'	IV-6	1953	2008	489	0-137	141	141
133.50	25°14.5'	114°24'	IV-6	1629	1644	510	0-136	49	49
133.60	24°54.5'	115°01.5'	IV-6	1104	1119	484	0-141	176	176
137.23	25°34.2'	112°18.7'	IV-5	0849	0855	256	0-59	172	172
137.30	25°19:5'	112°46'	IV-5	1228	1243	516	0-141	441	441
137.35	25°10'	113°04.5'	IV-5	1549	1604	522	0-137	107	107
137.40	24°59'	113°25.5'	IV-5	1819	1834	535	0-137	118	118
137.45	24°50'	113°42.5'	IV-5	2124	2139	488	0-140	135	135
137.50	24°40'	114°01.5'	IV-5	2346	0001	464	0-139	159	159
137.60	24°18'	114°38.5'	IV-6	0506	0521	509	0-136	175	175

Plankton Volumes, Cruise 37, May 1952

Position			Time (PST)			Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
			(1952)					Total	Sm.org.
Sta.	N.lat	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
60.80	36°57'	125°04'	V-21	0231	0245	512	0-142	141	141
60.90	36°37'	125°47'	V-20	1431	1446	486	0-141	66	66
60.100	36°17'	126°30'	V-20	0706	0721	489	0-139	245	245
63.52	37°19'	122°36.2'	V-8	1913	1921	299	0-62	201	201
63.55	37°14'	122°49.5'	V-8	2111	2126	477	0-145	514	514
63.60	37°03.5'	123°10.7'	V-9	0011	0026	518	0-138	795	772
63.65	36°53'	123°32'	V-9	0301	0316	571	0-127	329	329
67.50	36°49'	122°04.6'	V-9	2033	2041	309	0-76	573	573
67.55	36°36'	122°26'	V-9	1601	1616	439	0-138	403	403
67.65	Occupied. Biological data lost.								
70.55	36°03'	122°02'	V-18	1046	1101	493	0-139	272	272
70.60	35°53'	122°23'	V-18	1526	1540	484	0-140	2873	2873
70.65	35°42.5'	122°45'	V-18	1831	1846	491	0-139	348	348
70.70	35°33'	123°06'	V-18	2051	2106	474	0-140	2213	2213
70.80	35°13'	123°48'	V-19	0326	0341	524	0-130	65	65
70.90	34°53'	124°30'	V-19	0916	0931	505	0-141	40	40
70.100	34°33'	125°12'	V-19	1416	1430	484	0-142	74	50
73.50	35°37'	121°16.6'	V-18	0433	0441	270	0-68	104	104
73.55	35°27.5'	121°37'	V-18	0141	0156	492	0-141	451	451
73.60	35°18'	121°58.4'	V-17	2141	2156	472	0-140	106	106
77.50	35°04.4'	120°52'	V-17	0456	0511	504	0-136	461	461
77.55	34°54'	121°15.5'	V-17	0817	0831	464	0-139	248	248
77.60	34°44'	121°34'	V-17	1141	1155	486	0-141	97	97
77.65	34°34'	121°55'	V-17	1421	1436	445	0-141	175	175
80.51	34°26.5'	120°32.5'	V-15	1848	1856	284	0-70	85	85
80.55	34°19'	120°48'	V-15	1536	1551	510	0-141	208	208
80.60	34°09'	121°09'	V-15	0751	0806	572	0-137	136	136
80.70	33°49'	121°51'	V-14	1657	1711	510	0-132	18	18
80.80	33°29'	122°32'	V-13	2256	2311	536	0-132	116	106
80.85	33°19'	122°53'	V-13	2011	2026	494	0-142	142	142
80.90	33°09'	123°13'	V-13	1626	1641	514	0-137	80	80
80.100	32°49'	123°54'	V-13	1041	1056	527	0-142	66	66
83.43	34°08'	119°34'	V-11	1631	1645	512	0-137	594	594
83.55	33°44'	120°24.5'	V-12	0026	0041	450	0-142	205	205
83.60	33°34'	120°45'	V-12	0656	0712	543	0-140	280	280
83.65	33°24'	121°05'	V-12	1131	1146	473	0-132	338	338
83.70	33°14.5'	121°26'	V-12	1401	1416	479	0-139	203	203
83.75	33°04'	121°47'	V-12	1751	1806	508	0-148	43	43
83.80	32°54.5'	122°07.5'	V-12	2026	2041	501	0-137	92	92
83.85	32°44'	122°28'	V-13	0011	0026	503	0-136	70	70
83.90	32°34.5'	122°48'	V-13	0241	0256	501	0-140	118	84
87.35	33°48.9'	118°37.3'	V-9	0556	0611	479	0-141	134	134
87.40	33°40'	118°58'	V-9	0941	0956	464	0-142	60	60
87.45	33°30'	119°18.8'	V-9	1216	1231	480	0-145	129	129
87.50	33°20.6'	119°40.5'	V-9	1517	1530	340	0-54	276	276
87.55	33°11'	119°59.9'	V-9	1805	1822	461	0-143	238	238
87.60	32°58'	120°18'	V-9	2206	2221	503	0-132	262	262

Position			(1952)	Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	Total cc.	Sm.org. cc.
87.65	32°49'	120°14.2'	V-10	0106	0121	462	0-142	450	450
87.70	32°39.5'	121°02'	V-10	0451	0506	360	0-156	527	505
87.75	32°30'	121°23'	V-10	0720	0736	484	0-140	161	161
87.80	32°17'	121°44.6'	V-10	1136	1151	538	0-133	60	60
90.28	33°27.7'	117°48'	V-12	1400	1416	521	0-133	80	80
90.30	33°24.5'	117°55'	V-12	1206	1221	538	0-117	85	85
90.37	33°12'	118°22'	V-12	0821	0831	415	0-131	125	125
90.45	32°54.5'	118°56'	V-12	0336	0353	605	0-142	185	185
90.53	32°38'	119°25'	V-11	2215	2232	418	0-122	220	220
90.60	32°24.8'	119°56.1'	V-11	1711	1726	485	0-132	68	68
90.65	32°08.9'	120°24'	V-11	1250	1306	466	0-142	43	43
90.70			Occupied. Biological data lost						
90.75	31°54.6'	120°58.9'	V-11	0456	0511	476	0-141	36	36
90.80	31°45'	121°19'	V-11	0206	0223	489	0-141	75	75
90.90	31°25'	121°59'	V-10	1936	1952	509	0-134	110	110
93.27	32°56'	117°20'	V-13	2021	2036	525	0-136	124	124
93.30	32°49.8'	117°32.2'	V-13	2256	2310	461	0-148	104	104
93.35	32°40.2'	117°52.5'	V-14	0151	0206	468	0-153	231	231
93.40	32°30.9'	118°13.4'	V-14	0536	0550	439	0-148	98	98
93.45	32°18.5'	118°31.5'	V-14	0841	0855	445	0-144	106	106
93.50	32°09.3'	118°47.1'	V-14	1236	1250	476	0-151	116	116
93.55	32°00'	119°11.3'	V-14	1601	1616	480	0-139	160	160
93.60	31°51.4'	119°35.4'	V-14	2056	2111	450	0-147	189	189
93.65	31°32'	119°55.5'	V-14	2356	0010	437	0-142	50	50
93.70	31°27.9'	120°17.8'	V-15	0352	0405	477	0-143	29	29
93.75	31°16.7'	120°32'	V-15	0631	0645	454	0-145	60	60
93.80	31°05.6'	120°58.1'	V-15	0950	1004	452	0-144	33	33
97.30	32°15.1'	117°08.4'	V-17	0634	0639	124	0-21	916	916
97.35	32°05.8'	117°30'	V-17	0331	0345	370	0-136	284	284
97.40	31°55.5'	117°50'	V-17	0101	0115	449	0-141	210	210
97.45	31°46.5'	118°09'	V-16	2111	2125	489	0-131	190	190
97.50	31°35.4'	118°30.3'	V-16	1826	1840	485	0-139	56	56
97.55	31°25.5'	118°50'	V-16	1431	1445	404	0-141	62	62
97.60	31°15.9'	119°10.7'	V-16	1143	1158	350	0-145	46	46
97.65	31°07.8'	119°26'	V-16	0831	0846	352	0-140	68	51
97.70	30°57'	119°47.6'	V-16	0606	0620	365	0-139	63	63
97.75	30°46'	120°09'	V-16	0200	0215	478	0-138	54	54
97.80	30°36.9'	120°29'	V-15	2316	2330	415	0-151	65	65
97.90	30°16.3'	121°11.5'	V-15	1656	1711	492	0-139	49	49
100.29	31°42.2'	116°43.5'	V-19	2326	2344	534	0-94	521	521
100.30	31°41'	116°46.5'	V-20	0110	0126	558	0-132	430	430
100.40	31°23'	117°26'	V-20	0726	0741	512	0-130	43	43
100.45	31°13'	117°47'	V-20	1006	1021	566	0-134	67	67
100.50	31°05'	118°07'	V-20	1501	1516	542	0-124	85	85
100.55	30°54'	118°29'	V-20	1751	1806	383	0-133	76	76
100.60	30°46'	118°48'	V-20	2136	2151	455	0-136	114	114
100.65	30°35'	119°03'	V-21	0039	0056	346	0-168	121	121

Plankton Volumes, Cruise 37, May 1952 (cont'd)

Position			(1952)	Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
								Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
100.70	30°26'	119°17'	V-21	0438	0456	529	0-137	8	8
100.75	30°13'	119°36'	V-21	0724	0741	615	0-119	24	24
100.80	29°48.5'	120°12'	V-21	1304	1320	546	0-126	44	44
100.90	29°40.5'	120°47'	V-21	1854	1910	484	0-143	43	43
103.30	31°00'	116°25.2'	V-23	2103	2112	306	0-41	955	955
103.35	30°37'	116°49'	V-23	1559	1615	510	0-145	75	75
103.40	30°29'	117°10'	V-23	1229	1246	540	0-144	248	248
103.45	30°22'	117°29'	V-23	0849	0906	594	0-134	94	94
103.50	30°14'	117°50'	V-23	0514	0531	476	0-135	88	88
103.60	30°00'	118°28'	V-22	2153	2210	472	0-140	61	61
103.65	29°53'	118°48'	V-22	1724	1741	532	0-141	51	51
103.70	29°45'	119°06.5'	V-22	1439	1455	471	0-149	55	55
103.75	29°29'	119°20'	V-22	1054	1111	545	0-131	35	35
103.80	29°26'	119°42'	V-22	0754	0811	575	0-131	33	33
103.90	29°06'	120°25'	V-22	0132	0151	515	0-146	70	70
107.32	30°25.9'	116°11'	V-24	0214	0231	606	0-129	317	317
107.35	30°20'	116°23'	V-24	0454	0511	614	0-133	346	346
107.40	30°10.8'	116°43.5'	V-24	0829	0845	564	0-138	99	99
107.45	30°02'	117°03'	V-24	1119	1136	615	0-135	57	57
107.50	29°51'	117°21'	V-24	1509	1526	398	0-137	85	85
107.60	29°31'	118°00'	V-24	2123	2141	521	0-134	88	88
107.70	29°11.2'	118°43'	V-25	1724	1741	541	0-143	68	68
107.80	28°52.5'	119°20.5'	V-25	2333	2351	530	0-143	57	57
110.33	29°50'	115°53.5'	V-25	0628	0641	362	0-72	83	83
110.35	29°46.2'	116°00.5'	V-25	0456	0511	435	0-141	166	166
110.40	29°37'	116°20'	V-25	0131	0146	472	0-132	318	318
110.45	29°27'	116°39'	V-24	2231	2246	290	0-143	117	117
110.50	29°16.5'	116°59'	V-24	2011	2026	385	0-143	67	67
110.60	28°56'	117°39'	V-24	1436	1451	468	0-138	94	94
110.70	28°36'	118°18'	V-24	0911	0926	415	0-144	101	101
110.80	28°16'	118°57'	V-24	0346	0401	459	0-141	87	87
110.90	28°01'	119°36'	V-23	2306	2321	491	0-134	61	61
113.30	29°22.4'	115°17.6'	V-22	1728	1736	259	0-42	440	440
113.35	29°12.5'	115°37'	V-22	1931	1946	447	0-142	103	103
113.40	28°58.5'	116°02.5'	V-22	2256	2311	456	0-140	96	96
113.45	28°50'	116°21'	V-23	0110	0126	524	0-133	111	111
113.50	28°36'	116°34'	V-23	0406	0421	438	0-139	68	68
113.55	28°21'	116°58.5'	V-23	0616	0631	453	0-141	88	88
113.60	28°22'	117°17'	V-23	0916	0931	453	0-142	62	62
113.65	28°13'	117°37'	V-23	1116	1131	424	0-139	57	57
113.70	28°04'	117°56'	V-23	1356	1410	444	0-142	68	68
117.26	28°56'	114°41'	V-22	1319	1327	280	0-42	200	200
117.30	28°48'	114°57'	V-22	1111	1125	406	0-72	148	148
117.35	28°37'	115°17.5'	V-22	0836	0851	457	0-140	96	96
117.40	28°28'	115°37.6'	V-22	0726	0741	481	0-138	129	129
117.45	28°18'	115°55'	V-22	0321	0336	591	0-129	58	58
117.50	27°55'	116°04'	V-22	0056	0111	516	0-135	70	70

Plankton Volumes, Cruise 37, May 1952 (cont'd)

Position			(1952)	Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
								Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
117.55	27°27.2'	116°33'	V-21	1941	1955	431	0-156	79	79
117.60	27°15'	116°57'	V-21	1731	1747	533	0-139	47	47
117.65	27°15.2'	117°20.2'	V-21	1441	1456	476	0-144	78	78
117.70	27°15'	117°42'	V-21	1241	1256	429	0-145	65	65
120.25	28°24'	114°16'	V-19	2038	2046	228	0-44	132	132
120.30	28°13'	114°33.5'	V-19	2228	2241	366	0-72	295	295
120.35	28°03'	114°54.5'	V-20	0103	0114	349	0-53	109	109
120.40	27°55'	115°17'	V-20	0304	0312	297	0-39	114	114
120.45	27°43.6'	115°33.2'	V-20	0551	0605	438	0-143	46	46
120.50	27°31'	115°56'	V-20	0926	0941	455	0-141	110	110
120.55	27°21'	116°14'	V-20	1116	1131	499	0-130	40	40
120.60	27°15'	116°32'	V-20	1426	1441	468	0-134	68	68
120.65	27°03'	116°51.9'	V-20	1636	1651	488	0-135	57	57
120.70	26°52.5'	117°11'	V-20	1906	1921	428	0-145	82	82
120.80	26°32'	117°48'	V-21	0000	0016	538	0-126	71	71
120.90	26°13'	118°28'	V-21	0426	0441	481	0-141	25	25
123.37	27°24'	114°40'	V-19	0014	0022	279	0-36	718	718
123.40	27°18'	114°51'	V-18	2211	2225	466	0-146	107	107
123.45	27°08'	115°04'	V-18	1911	1926	379	0-155	90	90
123.50	26°58'	115°30.5'	V-18	1721	1736	462	0-136	52	52
123.55	26°48'	115°50'	V-18	1416	1432	520	0-135	29	29
123.60	26°40'	116°14'	V-18	1141	1156	454	0-141	29	29
127.34	26°55.3'	114°06'	V-17	1627	1638	364	0-54	454	454
127.40	26°42.8'	114°31.3'	V-17	1946	2001	448	0-145	178	178
127.45	26°33'	114°50'	V-17	2156	2211	428	0-144	98	98
127.50	26°24'	115°08'	V-18	0121	0137	434	0-138	92	92
127.55	26°14'	115°28'	V-18	0326	0342	494	0-134	36	36
127.60	26°03.5'	115°46.5'	V-18	0616	0631	442	0-143	145	145
130.30	26°29'	113°30'	V-17	1147	1158	402	0-57	397	397
130.35	26°19.5'	113°48.5'	V-17	0941	0956	444	0-145	113	113
130.40	26°01'	114°23'	V-17	0526	0541	474	0-128	122	122
130.45	25°58'	114°26'	V-17	0126	0141	483	0-131	93	93
130.50	25°38'	115°05'	V-16	2256	2311	495	0-141	109	109
130.55	25°28'	115°26'	V-16	1936	1951	441	0-140	181	181
130.60	25°17'	115°48'	V-16	1641	1655	473	0-135	34	34
133.25	26°05'	112°48'	V-15	1708	1716	292	0-40	48	48
133.30	25°54.5'	113°07.5'	V-15	2001	2016	535	0-134	800	800
133.35	25°49'	113°28'	V-15	2236	2251	487	0-125	82	82
133.40	25°34.5'	113°45'	V-16	0241	0256	495	0-132	170	170
133.45	25°23.9'	114°04.5'	V-16	0511	0526	522	0-115	73	73
133.50	25°14.5'	114°24'	V-16	0826	0841	520	0-136	92	92
137.23	25°35'	112°19'	V-15	1232	1242	325	0-36	31	31
137.30	25°07'	112°47'	V-15	0746	0801	581	0-128	58	58
137.35	25°07'	113°04.2'	V-15	0416	0431	598	0-116	120	120
137.40	24°53'	113°25'	V-15	0206	0221	514	0-128	97	97
137.45	24°50'	113°43'	V-14	2251	2308	601	0-137	80	80
137.50	24°40'	114°01.5'	V-14	2036	2051	512	0-133	62	62

Plankton Volumes, Cruise 38, June 1952

Position			Time (PST)					Vol.per 1000 C.M.strained	
Sta.	N.lat.	W.long.	(1952) Date	Start	End	Vol. water strained C.M.	Depth of haul in meters	Total cc.	Sm.org. cc.
50.50	39°40.5'	124°09'	VI-16	0007	0020	564	0-118	652	652
50.60			Occupied. Sample not quantitative						
50.70			Not occupied						
50.80			Not occupied						
50.90			Not occupied						
50.100			Not occupied						
53.52	39°02'	123°51.1'	VI-15	1628	1638	320	0-55	275	275
53.55	38°56'	124°04'	VI-15	1406	1421	543	0-104	508	508
53.65	38°34'	124°55'	VI-15	0906	0920	418	0-147	856	842
57.51	28°29.8'	123°22.5'	VI-14	1703	1715	489	0-126	753	753
57.55	38°22.1'	123°39.5'	VI-14	2002	2015	549	0-61	536	523
57.65	38°02.1'	124°25'	VI-15	0216	0231	560	0-112	520	507
60.55	37°48.9'	123°19.8'	VI-13	0323	0334	300	0-59	854	854
60.60	37°33.7'	123°33'	VI-13	0056	0111	494	0-145	575	575
60.65	37°25'	124°00'	VI-12	2106	2121	460	0-140	517	517
60.70	37°18.9'	124°22.1'	VI-12	1856	1911	481	0-140	351	351
60.80			Occupied. Sample not quantitative						
60.90	36°38.3'	125°49.9'	VI-12	0956	1011	487	0-138	115	78
60.100	36°15.4'	126°25.2'	VI-12	0541	0556	454	0-145	104	68
63.52	37°19.5'	122°36.2'	VI-17	0643	0653	327	0-56	407	389
63.55	37°14'	122°49.5'	VI-17	0446	0500	494	0-131	277	190
63.60	37°03.5'	123°10.5'	VI-17	0126	0141	(478)	0-138	557	486
63.65	36°50'	123°48'	VI-16	2131	2146	(479)	0-135	238	205
67.50	36°49'	122°05'	VI-17	1108	1119	312	0-55	276	276
67.55	36°39'	122°26'	VI-17	1406	1421	507	0-137	272	272
67.60	36°29'	122°47.5'	VI-17	1616	1630	366	0-140	1094	1094
67.65	36°19'	123°09'	VI-17	1916	1930	359	0-129	870	870
70.55	36°03'	122°02'	VI-10	1736	1751	555	0-114	653	591
70.60	35°54'	122°27'	VI-10	2110	2125	443	0-141	478	478
70.65	35°43.5'	122°54'	VI-10	2331	2346	477	0-134	520	520
70.70	35°33'	123°21'	VI-11	0406	0421	465	0-146	475	452
70.75	35°25'	123°43'	VI-11	0631	0646	455	0-141	637	553
70.80	35°22'	123°50'	VI-11	0816	0830	427	0-136	537	446
70.90	35°00'	124°34'	VI-11	1311	1326	486	0-127	62	62
70.100	34°37'	125°05'	VI-11	1726	1741	502	0-135	68	68
73.50	35°37'	121°16.6'	VI-10	1128	1141	389	0-70	198	198
73.55	35°27.5'	121°37.5'	VI-10	0906	0921	469	0-137	290	290
73.60			Occupied. Sample not quantitative						
77.50	35°04.4'	120°52'	VI-9	1723	1735	337	0-70	243	243
77.55	34°54.8'	121°12.2'	VI-9	2016	2031	436	0-140	514	514
77.60	34°44.5'	121°33'	VI-9	2231	2246	460	0-140	1149	1121

Plankton Volumes, Cruise 38, June 1952 (cont'd)

Position			(1952)	Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
Stn.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	Total cc.	Sm.org. cc.
80.51	34°26.3'	120°33.6'	VI-9	1258	1309	374	0-63	337	337
80.55	34°17'	120°46'	VI-9	1121	1135	501	0-136	188	188
80.60	34°03'	121°08'	VI-9	0826	0841	488	0-141	223	223
80.65	33°56.6'	121°28'	VI-9	0531	0546	437	0-139	334	334
80.70	39°49'	121°51'	VI-9	0326	0341	483	0-141	560	560
80.80	33°29'	122°32'	VI-8	2216	2231	(498)	0-126	58	58
80.90	33°09'	123°13'	VI-8	1656	1711	(490)	0-130	31	31
80.100	32°49.3'	123°54.2'	VI-8	1241	1256	484	0-137	64	64
83.43	34°08'	119°34'	VI-6	1136	1150	553	0-133	177	177
83.55	33°44'	120°24.5'	VI-7	0841	0856	531	0-133	516	516
83.60	33°31'	120°43'	VI-7	1206	1221	599	0-105	319	304
83.70	33°14.5'	121°26'	VI-7	1746	1800	476	0-140	273	273
83.75	33°06'	121°46'	VI-7	2011	2026	517	0-135	608	608
83.80	32°54'	122°08'	VI-8	0006	0021	595	0-126	187	187
83.90	32°35.6'	122°51.9'	VI-8	0620	0634	460	0-127	59	59
87.35	33°50'	118°37.5'	VI-3	0814	0830	541	0-106	55	55
87.40	33°40'	118°58.5'	VI-3	1155	1209	497	0-120	54	54
87.45	33°29.7'	119°18.7'	VI-3	1535	1550	511	0-124	145	145
87.50	33°20'	119°39.5'	VI-3	1833	1839	207	0-33	498	498
87.55	33°10.2'	120°00.2'	VI-3	2113	2129	467	0-127	285	285
87.60	32°57.5'	120°20'	VI-3	2356	0010	391	0-129	655	655
87.70	32°39.5'	121°02'	VI-4	0611	0624	228	0-127	593	475
87.80	32°12'	121°43'	VI-4	1207	1219	418	0-120	124	124
90.28	33°28.5'	117°46.5'	VI-6	1629	1636	274	0-32	742	742
90.30	33°24.5'	117°55'	VI-6	1328	1340	379	0-72	237	237
90.37	33°11.5'	118°23.5'	VI-6	0922	0935	440	0-120	132	132
90.45	32°55.5'	118°56.5'	VI-6	0456	0510	385	0-129	646	646
90.53	32°39.5'	119°30'	VI-6	0001	0014	412	0-125	354	354
90.60	32°25.5'	119°59.5'	VI-5	1946	2000	373	0-138	177	158
90.65	32°14'	120°18'	VI-5	1731	1744	386	0-130	57	57
90.70	32°04.5'	120°39'	VI-5	1410	1424	399	0-126	50	50
90.80	31°48.5'	121°14'	VI-5	0920	0934	433	0-124	60	60
90.90	31°25'	121°59'	VI-5	0414	0429	448	0-128	76	76
90.100	31°04.5'	122°40'	VI-4	2135	2150	441	0-122	50	50
93.27	32°56'	117°19.2'	VI-6	2048	2056	247	0-65	418	418
93.30	32°50'	117°31.5'	VI-6	2251	2304	407	0-128	211	211
93.35	32°40'	117°52'	VI-7	0206	0220	389	0-125	334	334
93.40	32°30'	118°12.5'	VI-7	0431	0445	376	0-132	221	221
93.45	32°20'	118°33'	VI-7	0806	0819	366	0-129	426	426
93.50	32°10'	118°53.5'	VI-7	1006	1019	356	0-135	673	673
93.55	31°59'	119°13'	VI-7	1315	1330	387	0-136	284	258

Plankton Volumes, Cruise 38, June 1952 (cont'd)

Position			(1952)	Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
								Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
93.60	31°48.5'	119°32'	VI-7	1536	1549	361	0-132	64	64
93.65	31°37'	119°53'	VI-7	1841	1854	405	0-132	81	67
93.70	31°27.5'	120°13'	VI-7	2051	2104	381	0-134	66	66
93.80	31°07'	120°53'	VI-8	0205	0219	362	0-138	135	61
97.30	32°15.5'	117°09'	VI-9	1813	1820	196	0-38	424	424
97.32			Occupied. Sample spoiled						
97.36	32°05'	117°33'	VI-9	1436	1450	427	0-121	262	262
97.40	31°57'	117°48'	VI-9	1227	1240	396	0-122	139	139
97.45	31°46'	118°10'	VI-9	0956	1010	418	0-122	289	289
97.50	31°35.5'	118°30.5'	VI-9	0642	0654	370	0-124	224	224
97.55	31°25.5'	118°51'	VI-9	0357	0409	402	0-123	184	184
97.60	31°15.5'	119°10.5'	VI-8	2346	0000	390	0-127	166	166
97.65	31°05'	119°31'	VI-8	2126	2139	393	0-124	214	214
97.70	30°53'	119°50.5'	VI-8	1821	1834	402	0-128	60	60
97.80	30°35'	120°31'	VI-8	1326	1339	404	0-122	59	59
97.90	30°11'	120°55'	VI-8	0826	0839	370	0-124	86	86
100.29	31°42.2'	116°43.4'	VI-9	2329	2336	229	0-42	1467	1467
100.30	31°40.5'	116°46.5'	VI-10	0029	0045	341	0-157	396	396
100.35	31°31'	117°07'	VI-10	0326	0339	444	0-122	189	189
100.40	31°21'	117°27'	VI-10	0607	0619	315	0-144	159	159
100.45	31°09'	117°50'	VI-10	0917	0930	357	0-126	292	292
100.50	31°01'	118°07'	VI-10	1110	1124	385	0-124	221	221
100.55	30°51'	118°28'	VI-10	1505	1519	396	0-131	109	109
100.60	30°41'	118°47.5'	VI-10	1707	1719	399	0-121	206	206
100.65	30°31'	119°06'	VI-10	2036	2050	364	0-136	121	121
100.70	30°19.5'	119°27'	VI-10	2253	2309	445	0-135	103	103
100.80	29°58.5'	120°07'	VI-11	0437	0450	370	0-128	65	65
100.90	29°36'	120°48'	VI-11	1042	1055	352	0-131	60	60
100.100	29°20.5'	121°27'	VI-11	1601	1614	382	0-127	34	34
103.30	31°05.2'	116°25'	VI-13	0814	0821	250	0-40	608	608
103.35	30°55.5'	116°45'	VI-13	0506	0520	483	0-113	267	267
103.40			Not occupied						
103.50			Not occupied						
103.55	30°16'	118°05'	VI-12	1952	2005	352	0-133	150	150
103.60			Occupied. Sample lost						
103.65	29°56.5'	118°45.5'	VI-12	1357	1409	356	0-130	59	59
103.70	29°48.5'	119°04'	VI-12	1015	1029	397	0-125	48	48
103.75	29°36'	119°26'	VI-12	0726	0740	420	0-122	40	40
103.80	29°25'	119°52'	VI-12	0337	0349	359	0-134	64	64
103.90	29°06'	120°25'	VI-11	2205	2225	558	0-138	109	109

Plankton Volumes, Cruise 38, June 1952 (cont'd)

Position				Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
			(1952)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
107.32	30°25.5'	116°10.5'	VI-21	1235	1250	393	0-138	97	97
107.35	30°16'	116°22.5'	VI-21	1031	1046	419	0-134	210	210
107.40	30°08'	116°42'	VI-21	0746	0801	450	0-140	115	115
107.45	29°58.5'	117°04'	VI-21	0406	0420	423	0-138	198	92
107.50	29°50'	117°24'	VI-21	0141	0156	466	0-141	101	101
107.55	29°41.8'	117°43'	VI-20	2231	2246	460	0-139	191	191
107.60	29°33'	118°04'	VI-20	2011	2026	461	0-137	93	93
107.65	29°23.5'	118°25'	VI-20	1651	1706	424	0-152	57	57
107.70	29°14'	118°44'	VI-20	1431	1445	420	0-142	76	76
107.80	28°54.3'	119°22.5'	VI-20	0911	0926	477	0-142	44	44
110.33	29°50.5'	115°52'	VI-18	1634	1642	218	0-42	469	469
110.35	29°46.5'	116°00'	VI-18	1851	1905	478	0-130	126	126
110.40	29°36.5'	116°19.5'	VI-18	2216	2231	438	0-142	103	103
110.45	29°26'	116°39'	VI-19	0026	0041	411	0-145	102	102
110.50	29°17'	117°00'	VI-19	0406	0420	390	0-141	213	213
110.55	29°05.2'	117°18'	VI-19	0626	0640	392	0-145	77	77
110.60	28°54'	117°38'	VI-19	0936	0950	432	0-140	53	53
110.65	28°43.6'	117°57'	VI-19	1156	1210	368	0-138	76	76
110.70	28°36'	118°18'	VI-19	1446	1500	400	0-143	87	87
110.80	28°15'	118°58'	VI-19	2011	2026	448	0-139	80	80
110.90	27°57'	119°36'	VI-20	0121	0135	422	0-141	78	78
113.30	29°25'	115°20'	VI-18	1134	1141	232	0-46	376	376
113.35	29°13.2'	115°38'	VI-18	0921	0936	482	0-133	305	305
113.40	29°02'	115°58'	VI-18	0646	0700	423	0-136	97	97
113.45	28°52'	116°18'	VI-18	0336	0350	406	0-145	86	86
113.50	28°42'	116°38'	VI-18	0107	0121	378	0-149	196	196
113.55	28°32.2'	116°51.2'	VI-17	2146	2201	429	0-139	180	180
113.60	28°22'	117°17'	VI-17	1926	1940	451	0-147	109	109
113.65	28°12'	117°35.8'	VI-17	1616	1630	429	0-138	79	79
113.70	28°02'	117°55'	VI-17	1356	1410	462	0-135	342	342
117.26	28°55.3'	114°42.3'	VI-16	0844	0852	257	0-48	86	86
117.30	28°48'	114°56.5'	VI-16	1048	1100	343	0-55	41	41
117.35	28°33.1'	116°35.2'	VI-16	1356	1410	374	0-138	54	54
117.40	28°28'	115°37'	VI-16	1606	1620	445	0-131	133	133
117.45	28°18.1'	115°55'	VI-16	1811	1826	434	0-138	46	46
117.50	28°07.7	116°15'	VI-16	2116	2131	442	0-145	91	91
117.55	27°52'	116°34.5'	VI-17	0001	0016	375	0-144	117	117
117.60	27°48'	116°54'	VI-17	0301	0316	501	0-112	259	259
117.65	27°37'	117°13.5'	VI-17	0526	0541	438	0-138	137	137
117.70	27°24'	117°38'	VI-17	0826	0840	436	0-145	69	69

Plankton Volumes, Cruise 38, June, 1952 (cont'd)

Position				Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
			(1952)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
120.25	28°23'	114°15'	VI-16	0419	0426	180	0-36	78	78
120.30	28°13'	114°35'	VI-16	0153	0203	306	0-56	398	398
120.35	28°03'	114°54'	VI-15	2318	2328	278	0-59	403	403
120.40	27°54.5'	115°09.5'	VI-15	1329	1334	119	0-22	270	270
120.45	27°45'	115°33'	VI-15	1041	1056	448	0-137	58	58
120.50	27°33'	115°52.5'	VI-15	0631	0646	471	0-133	64	64
120.55	27°22.6'	116°13'	VI-15	0245	0301	446	0-139	103	103
120.60	27°12'	116°30'	VI-15	0021	0036	442	0-144	45	45
120.65	27°02'	116°52.4'	VI-14	2021	2036	433	0-142	53	53
120.70	26°52.5'	117°10'	VI-14	1741	1756	516	0-138	37	37
120.80	26°33'	117°48'	VI-14	1211	1225	456	0-141	13	13
120.90	26°10'	118°30'	VI-14	0431	0446	472	0-141	25	25
123.37	27°23'	114°41.5'	VI-12	2158	2206	267	0-40	862	862
123.40	27°17'	114°51'	VI-13	0021	0036	454	0-139	84	84
123.45	27°08'	115°11'	VI-13	0256	0310	452	0-138	57	57
123.50	26°55'	115°29.5'	VI-13	0656	0710	444	0-140	43	43
123.55	26°48.1'	115°49.2'	VI-13	0926	0941	423	0-146	33	33
123.60	26°38'	116°10'	VI-13	1412	1426	444	0-128	27	27
127.34	26°55.5'	114°06'	VI-11	2323	2331	293	0-57	942	942
127.40	26°40'	114°31'	VI-11	1933	1948	442	0-142	208	208
127.45	26°33.2'	114°45'	VI-11	1611	1626	472	0-138	104	104
127.50	26°24'	115°08'	VI-11	1322	1336	476	0-136	34	34
127.55	26°13.5'	115°26'	VI-11	1016	1030	465	0-145	32	32
127.60	26°01'	115°51.5'	VI-11	0625	0640	488	0-140	53	53
130.30	26°28'	113°29'	VI-10	0223	0233	319	0-58	345	345
130.35	26°19'	113°48.5'	VI-10	0556	0610	449	0-143	62	62
130.40	26°09'	114°05'	VI-10	0956	1010	437	0-153	174	174
130.45	25°58'	115°33.1'	VI-10	1256	1311	469	0-140	51	51
130.50	25°49'	114°46'	VI-10	1626	1641	491	0-144	45	45
130.55	25°30'	115°07.5'	VI-10	1906	1920	474	0-137	152	152
130.60	25°28.5'	115°24'	VI-10	2326	2340	558	0-141	147	134
133.25	26°01'	112°48.5'	VI-9	1738	1749	284	0-65	830	830
133.30	25°51.5'	113°06'	VI-9	1457	1511	454	0-140	372	372
133.35	25°40'	113°30.5'	VI-9	1116	1132	563	0-124	73	73
133.40	25°30'	113°50'	VI-9	0846	0901	502	0-151	70	70
133.45	25°24.5'	114°02'	VI-9	0516	0531	480	0-147	29	29
133.50	Occupied. Sample not quantitative								
137.23	25°35'	112°18.8'	VI-8	0319	0326	226	0-36	792	792
137.30	25°20'	112°46'	VI-8	0732	0746	414	0-153	34	34
137.35	25°08'	113°09'	VI-8	1006	1020	528	0-124	133	133
137.40	25°00'	113°23'	VI-8	1317	1331	508	0-132	63	63
137.45	24°50'	113°43'	VI-8	1541	1556	499	0-139	44	44
137.50	24°40'	114°01.5'	VI-8	1926	1941	504	0-149	197	183

Plankton Volumes, Cruise 39, July 1952

Position			Time (PST)			Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
			(1952)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
40.38	41°45.5'	124°26.5'	VII-14	1440	1452	298	0-70	2483	2483
40.40			Occupied. No biological data taken						
40.50	41°21'	125°22'	VII-14	0741	0755	337	0-148	1211	1178
40.60	41°03'	126°09'	VII-14	0106	0120	452	0-121	798	783
40.70	40°40'	126°52.5'	VII-13	1906	1921	456	0-135	675	675
40.80	40°23'	127°40'	VII-13	1316	1330	465	0-148	682	501
40.90	40°04'	128°22.5'	VII-13	0741	0755	451	0-139	836	803
43.42	41°04'	124°22'	VII-14	1816	1830	442	0-142	1119	1031
43.50			Occupied. Sample not quantitative						
47.50	40°14'	124°32'	VII-15	1201	1215	488	0-135	860	860
47.55	40°04.2'	124°54.5'	VII-15	0859	0914	437	0-147	1373	1373
47.60	39°54'	125°18'	VII-15	0556	0611	306	0-149	730	714
50.47	39°45'	123°56'	VII-15	1638	1652	455	0-62	906	906
50.50	39°40'	124°08'	VII-15	1836	1851	520	0-126	444	444
50.55	39°30.8'	124°28.4'	VII-15	2056	2110	474	0-146	750	750
50.60	39°20'	124°52'	VII-16	0100	0115	505	0-131	239	239
50.70	39°00'	125°36'	VII-16	0656	0711	474	0-139	87	87
50.80			Occupied. No biological data taken						
50.90			Occupied. No biological data taken						
53.55	38°55.5'	124°05'	VII-12	0541	0555	460	0-137	1368	1368
53.60	38°45.8'	124°26.7'	VII-12	0201	0215	479	0-139	789	702
53.65	38°36'	124°48'	VII-11	2316	2330	471	0-139	501	481
57.51	38°30'	123°22'	VII-11	0923	0933	353	0-52	215	215
57.55	38°22'	123°40'	VII-11	1206	1221	576	0-127	271	271
57.60	38°12.7'	124°01.5'	VII-11	1456	1510	534	0-123	288	288
57.65	38°02.5'	124°24'	VII-11	1801	1816	455	0-137	549	549
60.55			Occupied. Sample not quantitative						
60.57	37°47.5'	123°15'	VII-18	0446	0501	440	0-141	669	669
60.60	37°37'	123°37'	VII-18	0349	0404	393	0-143	843	749
60.65			Occupied. Sample not quantitative						
60.70	37°15'	124°21'	VII-17	2146	2200	524	0-122	282	256
60.80			Occupied. No biological data taken						
60.90	36°36'	125°45'	VII-17	1036	1050	474	0-143	507	507
60.100			Occupied. No biological data taken						
63.52	37°19'	122°36'	VII-19	1428	1438	250	0-52	750	635
63.55	37°14'	122°49.5'	VII-19	1620	1636	469	0-144	382	282
63.60	37°01.5'	123°14.8'	VII-19	1856	1911	391	0-143	492	461
63.65	36°53'	123°32'	VII-19	2206	2221	486	0-128	523	512
67.50			Occupied. Sample not quantitative						
67.55	36°40'	122°15.5'	VII-20	0920	0935	344	0-148	560	465
67.60	36°28.6'	122°42'	VII-20	0546	0601	395	0-126	504	296
67.65	36°18'	123°06'	VII-20	0326	0340	474	0-132	432	342
70.51	36°10.5'	121°45.6'	VII-20	1636	1650	289	0-135	636	636
70.60	35°53'	122°23'	VII-20	2112	2126	441	0-151	295	295
70.65	35°42.8'	122°45'	VII-20	2346	0001	460	0-133	957	957
70.70	35°33'	123°05'	VII-21	0346	0400	369	0-144	471	471
70.80	35°13'	123°47'	VII-21	0906	0920	419	0-130	244	244
70.90	34°53'	124°30'	VII-21	1446	1500	438	0-142	126	112

Plankton Volumes, Cruise 39, July 1952 (cont'd)

Position				Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
Sta.	N.lat.	W.long.	(1952) Date	Start	End	C.M.	in meters	Total cc.	Sm.org. cc.
73.50	35°39'	121°20'	VII-10	1348	1358	357	0-41	812	812
73.55	35°29.7'	121°42.3'	VII-10	1046	1101	519	0-129	617	578
73.60	35°18'	121°58'	VII-10	0806	0820	496	0-126	282	282
77.50	35°00.5'	120°54'	VII-9	1641	1656	524	0-142	191	191
77.55	34°54.5'	121°13'	VII-9	1956	2011	467	0-143	874	874
77.60	34°44.2'	121°33.8'	VII-9	2231	2246	407	0-39	708	708
77.65	34°34'	121°55'	VII-10	0201	0215	440	0-145	621	541
80.51	34°25'	120°32.5'	VII-23	1003	1016	355	0-69	163	163
80.55	34°19'	120°48'	VII-23	0812	0826	375	0-139	224	224
80.60	34°03'	121°05'	VII-23	0520	0535	367	0-128	820	807
80.65	33°54'	121°27'	VII-23	0219	0233	406	0-138	720	720
80.70	33°43'	121°52'	VII-22	2341	2356	467	0-136	182	182
80.80	33°25'	122°35'	VII-22	1656	1711	422	0-141	97	76
80.90	33°09'	123°14'	VII-22	1106	1121	553	0-103	49	31
80.100	32°49'	123°54'	VII-22	0546	0600	425	0-138	45	45
85.38	34°01.5'	119°02.5'	VII-12	0543	0551	245	0-59	449	449
85.40	35°57'	119°11'	VII-12	0411	0426	450	0-118	160	160
85.45	33°46.4'	119°30.7'	VII-12	0041	0056	469	0-137	239	239
85.50	33°35.5'	119°50.5'	VII-11	2221	2236	484	0-125	512	512
85.55	33°25'	120°13'	VII-11	1926	1941	447	0-144	389	389
85.60	33°18.5'	120°26'	VII-11	1741	1756	440	0-132	1278	1230
85.70	33°55.6'	121°11.1'	VII-11	1231	1245	476	0-130	204	204
85.80	32°39'	121°53'	VII-11	0821	0836	468	0-120	205	205
85.90	32°17'	122°37'	VII-11	0356	0411	431	0-140	464	464
90.28	33°28'	117°47'	VII-8	2141	2156	467	0-133	422	343
90.30	33°24.5'	117°56.4'	VII-8	2316	2331	445	0-136	256	256
90.37	33°10.9'	118°23.5'	VII-9	0330	0346	500	0-134	202	202
90.45	32°54.5'	118°56'	VII-9	1651	1706	440	0-136	100	100
90.53	32°40'	119°31'	VII-9	2116	2131	446	0-135	323	301
90.60	32°25'	119°57.5'	VII-10	0105	0121	499	0-135	62	62
90.70	32°00.5'	120°42.8'	VII-10	0706	0721	487	0-124	113	113
90.80	31°47'	121°19'	VII-10	1106	1121	444	0-140	101	101
90.90	31°25.5'	121°59.6'	VII-10	1606	1621	446	0-131	81	81
90.100	31°06.8'	122°39'	VII-10	2036	2051	468	0-134	47	47
93.27	32°55.6'	117°19.4'	VII-8	1708	1716	242	0-67	364	364
93.30	32°48'	117°31'	VII-8	1515	1531	496	0-138	81	81
93.35	32°39'	117°50.5'	VII-8	1146	1202	457	0-143	61	61
93.40	32°30'	118°13'	VII-8	0921	0936	483	0-138	124	124
93.45	32°19.8'	118°33'	VII-8	0611	0626	510	0-118	372	372
93.50	32°10'	118°53.2'	VII-8	0350	0406	510	0-132	302	302
93.55	32°00'	119°14.5'	VII-8	0030	0045	444	0-134	397	397
93.60	31°50'	119°34'	VII-7	2156	2211	472	0-130	479	479
93.70	31°29'	120°14.4'	VII-7	1716	1731	456	0-141	44	44
93.80	31°10'	120°54'	VII-7	1231	1246	474	0-134	67	67
93.90	30°50'	121°36'	VII-7	0756	0811	470	0-137	45	45
97.30	32°15.4'	117°08.8'	VII-5	1918	1924	176	0-34	495	495
97.32	32°11.5'	117°17'	VII-5	2136	2151	424	0-145	141	141

Plankton Volumes, Cruise 39, July 1952 (cont'd)

Position				Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
			(1952)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
97.40	31°55.5'	117°49'	VII-6	0125	0141	461	0-141	271	271
97.45	31°45.3'	118°10'	VII-6	0401	0416	444	0-131	225	225
97.50	31°35'	118°30.2'	VII-6	0651	0706	417	0-137	316	316
97.55	31°25'	118°50'	VII-6	0906	0921	486	0-130	187	187
97.60	31°15'	119°12'	VII-6	1141	1156	495	0-129	432	408
97.70	30°55'	119°51'	VII-6	1631	1646	459	0-146	96	96
97.80	30°35'	120°30'	VII-6	2131	2146	547	0-125	115	115
97.90	30°15'	121°10.8'	VII-7	0235	0251	472	0-138	66	53
100.29	31°42.5'	116°43.4'	VII-5	1451	1506	447	0-143	230	230
100.30	31°40.5'	116°47'	VII-5	1328	1343	472	0-134	93	93
100.35	31°30'	117°06'	VII-5	0941	0956	450	0-141	124	124
100.40	31°20.8'	117°27'	VII-5	0651	0706	421	0-140	185	185
100.45	31°11'	117°46.8'	VII-5	0315	0331	494	0-135	247	247
100.50	31°01'	118°07'	VII-5	0111	0126	505	0-137	172	172
100.55	30°15'	118°27'	VII-4	2156	2211	435	0-144	218	218
100.60	30°40.5'	118°47.5'	VII-4	1942	1957	463	0-138	138	138
100.70	30°20.3'	119°27.3'	VII-4	1421	1436	440	0-142	275	275
100.80	30°00'	120°08.9'	VII-4	0831	0845	464	0-129	52	52
100.90	29°40.5'	120°47'	VII-4	0321	0335	(463)	0-125	183	147
100.100	29°20'	121°27'	VII-3	2221	2236	472	0-140	62	62
105.32	30°45.2'	116°20.7'	VII-2	0503	0510	248	0-145	194	194
105.35	30°39.6'	116°32.4'	VII-2	0736	0751	476	0-129	132	132
105.40	30°29'	116°55'	VII-2	1101	1116	447	0-142	121	121
105.45	30°18.5'	117°13'	VII-2	1336	1350	441	0-145	138	125
105.50	30°10.2'	117°31.1'	VII-2	1656	1711	432	0-145	171	171
105.55	29°55'	118°03.2'	VII-2	1956	2011	508	0-123	124	124
105.60	29°50'	118°16'	VII-2	2230	2246	(490)	0-136	71	71
105.70	29°29'	118°54'	VII-3	0340	0356	476	0-138	88	76
105.80	29°02'	119°30'	VII-3	0841	0856	519	0-125	91	75
105.90	28°49.3'	120°14.3'	VII-3	1446	1501	472	0-142	38	38
110.33	29°51'	115°52.2'	VII-9	0955	1011	606	0-141	462	462
110.35	29°47.1'	116°00.1'	VII-9	1211	1226	505	0-128	194	194
110.40	29°37'	116°20.5'	VII-9	1606	1620	502	0-125	88	88
110.50	29°17.2'	117°01.2'	VII-9	2316	2331	549	0-139	95	95
110.60	28°57.1'	117°42.6'	VII-10	0556	0611	477	0-140	88	88
110.70	28°33.2'	118°25.2'	VII-10	1247	1301	546	0-124	194	194
110.80	28°14.4'	119°00.8'	VII-10	1816	1831	526	0-133	148	148
110.90	27°56.2'	119°36'	VII-11	0026	0041	567	0-125	109	88
113.30	29°15.6'	115°10.1'	VII-12	1908	1915	205	0-34	839	839
113.35	29°01.5'	115°42.5'	VII-12	1335	1351	465	0-131	194	194
113.40	28°46.2'	115°15.1'	VII-12	0911	0926	474	0-146	59	59
113.45	28°39.5'	116°30'	VII-12	0421	0435	473	0-138	63	63
113.50	28°32.2'	116°45.4'	VII-12	0141	0156	495	0-130	129	129
113.55	28°25'	117°00'	VII-11	2201	2216	532	0-135	158	158
113.60	28°19.4'	117°16.7'	VII-11	1901	1916	530	0-141	147	147
113.70	27°55.4'	118°03.2'	VII-11	1206	1221	482	0-141	141	141
117.26	28°55.8'	114°41.3'	VII-12	2328	2336	218	0-38	605	605

Plankton Volumes, Cruise 39, July 1952 (cont'd)

Position				Time (PST)		Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
			(1952)					Total	Sm. org.
Sta.	N. lat.	W. long	Date	Start	End	C.M.	in meters	cc.	cc.
117.30	28°46.9'	114°56.1'	VII-13	0214	0221	200	0-37	861	861
117.35	28°39'	114°08.8'	VII-13	0449	0456	225	0-37	435	435
117.40	28°28.9'	115°37.4'	VII-13	0905	0920	419	0-142	248	248
117.45	28°19'	115°56.5'	VII-13	1206	1221	530	0-130	230	230
117.50	28°08.5'	116°18.2'	VII-13	1610	1626	372	0-165	145	145
117.55	27°58'	116°38.5'	VII-13	1936	1951	296	0-126	196	196
117.60	27°48.1'	116°58.6'	VII-13	2325	2341	448	0-149	214	214
117.70	27°27.8'	117°38.9'	VII-14	0616	0631	465	0-150	198	198
120.25	28°19.5'	114°20'	VII-16	1409	1416	169	0-38	403	403
120.30	28°11.3'	114°37.5'	VII-16	1114	1124	359	0-66	95	95
120.35	28°03.2'	114°54'	VII-16	0813	0824	328	0-52	183	183
120.37	27°57.8'	115°09.2'	VII-16	0549	0554	185	0-16	184	184
120.45	27°43'	115°22.3'	VII-16	0256	0311	489	0-127	409	409
120.50	27°33.9'	115°41.4'	VII-15	2301	2316	455	0-146	286	286
120.55	27°26'	115°57'	VII-15	1921	1936	460	0-122	113	113
120.60	27°13.3'	116°23.2'	VII-15	1605	1621	549	0-116	98	98
120.70	26°53.6'	117°04.1'	VII-15	0831	0846	448	0-140	49	49
120.80	26°33'	117°45.1'	VII-15	0141	0156	419	0-137	145	110
120.90	26°13.3'	118°25.3'	VII-14	1716	1731	612	0-127	23	23
123.37	27°23.6'	114°41.3'	VII-17	0023	0034	378	0-50	3329	3329
123.40	27°17.5'	114°51.5'	VII-17	0341	0356	479	0-132	476	476
123.45	27°07.5'	115°11'	VII-17	0536	0551	518	0-128	120	120
123.50	26°58.7'	115°28.8'	VII-17	0916	0931	448	0-138	197	197
123.60	26°38.8'	116°08.2'	VII-17	2316	2330	459	0-141	39	39
127.34	26°54.3'	114°05.3'	VII-18	1507	1519	352	0-51	761	761
127.40	26°40.3'	114°31.3'	VII-18	1041	1056	453	0-148	124	124
127.45	26°31'	114°49.5'	VII-18	0641	0655	470	0-135	183	183
127.50	26°20.9'	115°07.6'	VII-18	0436	0451	426	0-142	282	282
127.60	26°03.2'	115°45.8'	VII-17	2111	2126	446	0-138	54	54
130.30	26°29'	113°29'	VII-19	0229	0236	256	0-27	556	556
130.35	26°19'	113°48.3'	VII-19	0841	0856	504	0-134	99	99
130.40	26°08.7'	114°08.8'	VII-19	1256	1311	474	0-138	84	84
130.45	24°58.5'	114°28'	VII-19	1541	1556	515	0-127	74	74
130.50	24°48.6'	114°47.7'	VII-19	1946	2001	487	0-135	90	70
130.60	24°28.1'	115°26'	VII-20	0226	0241	482	0-134	83	83
133.25			Occupied. Sample lost						
133.30	25°45'	113°21.8'	VII-20	2321	2336	461	0-135	156	156
133.35	25°37.2'	113°38'	VII-20	1941	1956	531	0-122	218	218
133.40	25°29'	113°54'	VII-20	1656	1710	540	0-114	115	115
133.45	25°21'	114°10.5'	VII-20	1311	1326	513	0-126	51	51
133.50	25°13.2'	114°26.5'	VII-20	1010	1025	465	0-141	77	64
137.23	25°34.2'	112°17.8'	VII-22	0324	0331	333	0-30	3348	3348
137.30	25°20'	112°45.5'	VII-22	0744	0753	294	0-41	306	306
137.35	25°10'	113°04.2'	VII-22	1016	1031	523	0-117	248	141
137.40	25°00'	113°23'	VII-22	1351	1406	512	0-120	23	23
137.45	24°50.8'	113°40.1'	VII-22	1631	1646	535	0-109	56	56
137.50	24°39.6'	114°01'	VII-22	2021	2036	506	0-126	197	87

Plankton Volumes, Cruise 40, August 1952

Position			(1952)	Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	Total cc.	Sm.org. cc.
60.55	37°46.5'	123°11.5'	VIII-19	0753	0801	247	0-74	1078	268
63.52	37°19'	122°36.2'	VIII-18	1858	1904	218	0-56	55	55
63.55	37°14'	122°49.5'	VIII-18	2056	2111	426	0-140	324	267
67.50	36°49'	122°04.6'	VIII-18	1228	1235	197	0-57	3411	569
67.55	36°39'	122°26'	VIII-18	0841	0856	460	0-142	178	178
67.65	36°19'	123°09'	VIII-18	0106	0121	443	0-146	160	160
70.51	36°10.4'	121°45.7'	VIII-16	0131	0146	509	0-140	620	620
70.60	35°53'	122°23'	VIII-16	2216	2230	480	0-142	473	462
70.70	35°33'	123°06'	VIII-17	0456	0511	452	0-142	321	321
70.80	35°13'	123°48'	VIII-17	1026	1041	504	0-132	66	66
73.50	35°37'	121°16.6'	VIII-15	1118	1125	217	0-56	354	354
73.60	35°18'	121°58.4'	VIII-15	1656	1711	484	0-138	1273	1273
77.50	35°04.4'	120°52'	VIII-15	0543	0550	266	0-69	165	165
77.55	34°54.5'	121°13'	VIII-15	0121	0136	458	0-142	245	245
77.65	34°34'	121°55'	VIII-14	1601	1616	457	0-143	1811	1785
80.51	34°26.5'	120°32.5'	VIII-12	0743	0750	198	0-58	423	141
80.55	34°19'	120°48'	VIII-12	1010	1025	483	0-139	306	306
80.60	34°09'	121°09'	VIII-12	1401	1416	430	0-141	495	423
80.70	33°49'	121°51'	VIII-12	2216	2230	480	0-142	108	108
80.80	33°29'	122°32'	VIII-13	0451	0506	489	0-139	256	256
80.90	33°09'	123°12'	VIII-13	1446	1501	468	0-143	24	24
80.100	32°49'	123°54'	VIII-13	1925	1941	514	0-138	35	35
85.38	34°01'	119°02.3'	VIII-11	2108	2115	206	0-58	218	218
85.40	33°57'	119°10.5'	VIII-11	1756	1811	506	0-133	99	99
85.50	33°37'	119°52'	VIII-11	1140	1154	462	0-143	108	108
85.60	33°13'	120°33'	VIII-11	0326	0341	498	0-142	908	851
90.28	33°28.5'	117°46.7'	VIII-9	0908	0916	282	0-68	358	358
90.30	33°24.5'	117°55'	VIII-9	1036	1051	502	0-142	195	195
90.37	33°11'	118°23.5'	VIII-9	1606	1620	505	0-138	170	170
90.45	32°54.5'	118°56'	VIII-9	2146	2201	492	0-142	659	635
90.53	32°38.5'	119°29'	VIII-10	0301	0316	473	0-137	456	456
90.60	32°25'	119°57.5'	VIII-10	0826	0842	499	0-142	122	122
90.70	32°04.5'	120°39'	VIII-10	1456	1511	515	0-141	142	132
93.27	32°56'	117°19.2'	VIII-9	0311	0326	533	0-136	176	176
93.30	32°50'	117°31.5'	VIII-9	0001	0016	547	0-129	104	104
93.40	32°30'	118°12.5'	VIII-8	1756	1811	531	0-138	154	154
93.50	32°10'	118°53.5'	VIII-8	1156	1211	518	0-142	174	174
97.30	32°15.4'	117°08.8'	VIII-7	1509	1515	249	0-42	850	850
97.32	32°11.5'	117°17'	VIII-7	1726	1741	527	0-133	163	133
97.40	31°55.5'	117°50'	VIII-7	2311	2326	504	0-144	428	428
97.50	31°35.5'	118°30.5'	VIII-8	0601	0616	510	0-141	172	172

Plankton Volumes, Cruise 40, August 1952 (cont'd)

Position				Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
Sta.	N.lat.	W.long.	(1952) Date	Start	End	C.M.	in meters	Total cc.	Sm.org. cc.
100.29	31°42'	116°43.5'	VIII-8	1856	1906	314	0-71	280	280
100.30	31°40.5'	116°46.5'	VIII-8	2046	2101	479	0-131	280	280
100.40	31°21'	117°27'	VIII-9	0221	0236	530	0-123	110	98
100.50	31°00'	118°07'	VIII-9	0718	0733	472	0-118	87	87
100.60	30°37'	118°48.5'	VIII-9	1226	1240	453	0-141	73	73
100.70	30°18'	119°26'	VIII-9	1707	1720	367	0-148	54	54
100.80	30°01'	120°07'	VIII-9	2256	2311	492	0-108	37	37
103.30	31°05'	116°25'	VIII-11	0118	0124	190	0-58	676	676
103.35	30°53'	116°42.2'	VIII-10	2251	2306	471	0-139	221	221
103.40	30°43'	117°04'	VIII-10	1932	1945	479	0-131	313	313
107.32	30°25.5'	116°11'	VIII-11	0621	0636	438	0-130	235	235
107.35	30°20'	116°20'	VIII-11	0911	0925	463	0-131	106	106
107.40	30°10.5'	116°43.5'	VIII-11	1231	1245	367	0-143	101	101
110.33	29°50.5'	115°52'	VIII-12	1543	1549	160	0-36	589	589
110.35	29°46.5'	116°00'	VIII-12	1356	1410	412	0-129	412	412
110.40	29°36.5'	116°19.5'	VIII-12	1011	1026	413	0-143	58	58
110.50	29°17'	116°59'	VIII-12	0506	0520	442	0-137	129	95
110.60	28°56'	117°39'	VIII-11	2341	2355	382	0-138	222	222
113.30	29°22.5'	115°18'	VIII-12	2014	2018	123	0-39	1246	1246
113.40	29°02'	115°58'	VIII-13	0141	0156	389	0-143	100	87
117.26	28°56'	114°41'	VIII-13	1318	1324	196	0-54	499	499
117.30	28°47'	114°55.5'	VIII-13	1048	1056	246	0-60	597	508
117.40	28°28'	115°35.5'	VIII-13	0602	0616	413	0-143	259	259
120.25	28°23'	114°15'	VIII-13	1814	1818	121	0-47	340	340
120.30			Not occupied						
120.35			Not occupied						
120.45	27°43'	115°33'	VIII-14	2326	2340	402	0-149	284	284
120.50	27°33.5'	115°56'	VIII-15	0231	0246	464	0-137	278	149
120.60	27°16'	116°31.5'	VIII-15	0732	0745	461	0-121	70	70
120.70	26°54'	117°10'	VIII-15	1126	1140	423	0-147	95	95
120.80	26°33'	117°48'	VIII-15	1626	1640	426	0-143	1266	1266
120.90	26°12.5'	118°27'	VIII-15	2041	2056	430	0-147	51	51
123.37	27°24'	114°40'	VIII-16	1744	1748	164	0-38	257	257
123.40	27°18'	114°51.5'	VIII-16	1556	1610	422	0-138	90	90
123.50	26°58'	115°31'	VIII-16	1111	1126	449	0-135	129	129
127.34	26°55'	114°06'	VIII-16	2244	2249	157	0-35	801	801
127.40	26°43.5'	114°29.5'	VIII-17	0156	0210	458	0-131	214	199
127.50	26°23'	115°08'	VIII-17	0646	0700	447	0-133	302	302
130.30	26°22'	113°31'	VIII-18	0603	0610	188	0-48	233	233
130.35	26°15'	113°48'	VIII-18	0321	0336	415	0-134	185	166
130.40	26°07'	114°06'	VIII-18	0001	0015	480	0-138	86	86
130.50	25°49'	114°46'	VIII-17	1756	1810	433	0-140	37	37
130.60	25°28.5'	115°24'	VIII-17	1326	1340	475	0-133	27	27
133.25	26°04.5'	112°48'	VIII-18	1028	1034	196	0-32	705	705
133.30	25°54.5'	113°07.5'	VIII-18	1301	1316	436	0-138	1420	1420
137.23	25°34'	112°18.5'	VIII-18	2018	2025	156	0-59	1144	1144
137.30	25°20'	112°45.5'	VIII-18	1731	1745	399	0-148	821	821

Plankton Volumes, Cruise 41, September 1952

Position				Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
Sta.	N.lat.	W.long.	(1952) Date	Start	End	C.M.	in meters	Total cc.	Sm.org. cc.
60.55	37°48.8'	123°14.4'	IX-17	0218	0231	391	0-63	801	801
60.60	37°38'	123°36.5'	IX-17	0815	0831	550	0-137	207	207
60.70	37°19.8'	124°20'	IX-17	1516	1531	571	0-112	123	123
60.80	37°01.5'	125°01'	IX-17	2116	2131	641	0-104	348	195
60.90	36°37.5'	125°47'	IX-18	0446	0501	445	0-131	171	171
60.100	36°16.5'	126°29.5'	IX-18	1026	1041	576	0-128	35	35
60.110	35°55.5'	126°11'	IX-18	1756	1811	537	0-135	48	48
63.52	37°18'	122°35.4'	IX-15	0723	0731	281	0-31	570	570
63.55	37°16.7'	122°48.8'	IX-15	0916	0928	510	0-77	137	137
67.50	36°49'	122°04.5'	IX-15	0048	0100	425	0-67	301	301
67.55	36°39'	122°25.5'	IX-14	2146	2201	527	0-118	531	531
67.65	36°19'	123°09'	IX-14	1541	1555	512	0-107	3250	3250
70.51	36°10.5'	121°45.6'	IX-13	1107	1120	533	0-56	375	94
70.60	35°55'	122°25	IX-13	1555	1611	531	0-128	392	392
70.70	35°38.5'	123°06'	IX-13	2306	2321	521	0-125	269	269
70.80	35°14.8'	123°47.5'	IX-14	0436	0449	435	0-114	92	92
73.50	35°36.8'	121°16.5'	IX-12	1808	1817	342	0-43	3148	3148
73.60	35°10.8'	122°00.5'	IX-13	0011	0026	511	0-120	2002	1973
77.50	35°04.4'	120°51.8'	IX-12	1138	1151	480	0-63	154	154
77.55	34°46.5'	121°05'	IX-12	0611	0626	424	0-133	2054	2040
77.65	34°30.5'	121°52.5'	IX-11	2256	2311	471	0-153	433	157
80.51	34°26'	120°32.8'	IX-9	1728	1737	328	0-41	104	104
80.55	34°18'	120°50'	IX-9	1936	1951	462	0-142	324	324
80.60	34°07'	121°12'	IX-10	0036	0051	435	0-155	368	368
80.70	33°45.1'	121°55.5'	IX-10	0726	0741	516	0-147	85	85
80.80	33°23.9'	122°37.5'	IX-10	1406	1421	486	0-148	45	45
80.90	33°09'	123°13'	IX-10	1956	2011	476	0-145	59	59
80.100	32°49.2'	123°51.5'	IX-11	0241	0256	470	0-145	43	43
85.38	34°00.4'	119°02.2'	IX-8	1327	1336	372	0-42	301	301
85.40	33°55.8'	119°09.6'	IX-8	1056	1111	504	0-135	159	139
85.50	33°36.8'	119°52'	IX-8	0516	0531	527	0-123	167	167
85.60	33°19'	120°33.5'	IX-7	2026	2041	480	0-135	333	333
90.28	33°28.2'	117°47'	IX-5	2201	2216	553	0-128	94	94
90.30	33°24.4'	117°55.3'	IX-6	0106	0121	515	0-132	113	113
90.37	33°09.5'	118°22.5'	IX-6	0511	0526	518	0-142	104	104
90.45	32°54'	119°01'	IX-6	1056	1110	525	0-124	19	19
90.53	32°38.3'	119°29.1'	IX-6	1646	1701	484	0-139	66	66
90.60	32°23'	119°57'	IX-6	2316	2331	493	0-147	93	93
90.70	32°01'	120°39.5'	IX-7	0646	0701	533	0-143	94	94
93.27	32°55.7'	117°18.7'	IX-5	1238	1247	416	0-34	173	173
93.30	32°50.4'	117°23.2'	IX-5	1006	1020	575	0-129	313	313
93.40	32°29'	118°06.8'	IX-5	0236	0251	468	0-142	154	154
93.50	32°05.5'	118°51.5'	IX-4	2005	2022	542	0-137	129	129
97.30	32°15'	117°09.2'	IX-3	1858	1907	382	0-38	178	178
97.32	32°11.2'	117°17.2'	IX-3	2254	2311	613	0-125	147	147
97.40	31°52.8'	117°51'	IX-4	0516	0531	637	0-121	314	314
97.50	31°30.2'	118°32.1'	IX-4	1211	1226	507	0-144	47	47

Position			Time (PST)			Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
			(1952)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
100.29	31°42.2'	116°43.5'	IX-3	2033	2040	284	0-67	543	543
100.30	31°40.5'	116°46.7'	IX-3	2216	2231	548	0-116	221	221
100.40	31°21'	117°27'	IX-4	0401	0415	471	0-140	138	138
100.50	31°01'	118°07'	IX-4	0941	0955	456	0-141	140	140
100.60	30°41'	118°48'	IX-4	1521	1536	504	0-143	38	38
100.70	30°21'	119°27'	IX-4	2136	2151	506	0-134	235	67
100.80	30°01'	120°07'	IX-5	0346	0400	445	0-143	79	79
103.30	31°05'	116°25'	IX-6	0548	0555	237	0-49	668	668
103.35	30°57'	116°46'	IX-6	0301	0316	434	0-149	226	207
103.40	30°48.5'	117°07.5'	IX-5	2251	2306	488	0-139	197	197
107.32	30°25.8'	116°11'	IX-6	1056	1110	481	0-134	482	482
107.35	30°20'	116°23'	IX-6	1321	1335	418	0-150	266	266
107.40	30°11'	116°43'	IX-6	1641	1655	460	0-141	150	150
110.33	29°50.5'	115°52.5'	IX-7	1627	1633	196	0-61	193	193
110.35	29°46.5'	116°00'	IX-7	1426	1440	487	0-131	99	99
110.40	29°34.5'	116°21.4'	IX-7	1131	1146	433	0-146	53	53
110.50	29°17.5'	117°02.5'	IX-7	0721	0735	479	0-136	33	33
110.60	28°59'	117°45'	IX-7	0111	0126	478	0-140	151	134
113.30	29°22.5'	115°17.7'	IX-7	2044	2049	163	0-39	726	652
113.40	29°02'	115°58.5'	IX-8	0146	0200	436	0-143	241	241
117.26	28°56'	114°41'	IX-8	1233	1240	245	0-69	49	49
117.30	28°49'	114°57'	IX-8	1043	1050	251	0-64	179	120
117.40	28°28'	114°35.5'	IX-8	0626	0640	431	0-143	110	110
120.25	28°23'	114°14.5'	IX-8	2053	2059	206	0-28	24	24
120.30	28°13'	114°34'	IX-9	0003	0010	229	0-45	232	232
120.35	28°02'	114°58'	IX-9	0328	0333	154	0-34	78	78
120.45	27°43'	115°33'	IX-9	1645	1700	482	0-150	120	31
120.50	27°32.5'	115°53'	IX-9	2025	2040	454	0-143	212	212
120.60	27°13'	116°32'	IX-10	0216	0231	441	0-138	159	159
120.70	26°52'	117°10.5'	IX-10	0731	0745	412	0-153	46	46
120.80	26°32'	117°49'	IX-10	1311	1326	461	0-141	35	35
120.90	26°13'	118°28'	IX-10	1841	1855	461	0-152	2238	2238
123.37	27°21'	114°40'	IX-11	1924	1928	139	0-34	375	375
123.40	27°15'	114°47'	IX-11	1756	1811	488	0-150	178	178
123.50	27°01'	115°31.5'	IX-11	1256	1311	506	0-130	49	36
127.34	26°55.3'	114°06'	IX-11	2328	2334	178	0-61	315	315
127.40	26°43.5'	114°29.5'	IX-12	0321	0336	470	0-137	174	174
127.50	26°23'	115°10'	IX-12	0831	0845	443	0-145	23	23
130.30	26°29'	113°29'	IX-13	0653	0659	203	0-51	310	310
130.35	26°14'	113°45.5'	IX-13	0418	0425	250	0-69	68	68
130.40	26°06'	114°05.5'	IX-13	0136	0150	466	0-136	90	90
130.50	25°49'	114°46'	IX-12	1951	2006	423	0-151	45	45
130.60	25°29'	115°24'	IX-12	1441	1456	452	0-142	31	31
133.25	26°04.5'	112°47'	IX-13	1104	1108	130	0-30	123	123
133.30	25°54.5'	113°07.5'	IX-13	1316	1331	443	0-141	1175	1175
137.23	25°34.5'	112°19'	IX-13	2044	2048	150	0-25	133	133
137.30	25°23'	112°47.5'	IX-13	1737	1750	438	0-136	110	110

Plankton Volumes, Cruise 42, October 1952

Sta.	Position N.lat.	Position W.long.	(1952) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
60.55	37°47.5'	123°16'	X-19	1213	1221	296	0-64	785	731
60.60	37°37.8'	123°37.8'	X-19	0921	0936	523	0-129	526	505
60.70	37°19.5'	124°23'	X-19	0326	0341	540	0-134	382	248
60.80	37°04.5'	125°07'	X-18	2156	2211	474	0-131	141	141
60.90	36°46'	125°46'	X-18	1711	1726	519	0-125	108	108
60.100	36°27'	126°30'	X-18	1211	1226	518	0-144	48	48
60.110	36°12'	127°07'	X-18	0801	0816	521	0-130	36	36
63.52	37°19'	122°36'	X-19	1658	1706	279	0-67	25769	79
63.55	37°14'	122°50.5'	X-19	1901	1916	516	0-144	410	410
67.50			Not occupied						
67.55	36°39'	122°26'	X-19	2331	2345	420	0-146	391	391
67.65	36°19'	123°09'	X-20	0416	0430	463	0-143	829	829
70.51			Not occupied						
70.60	35°52'	122°23'	X-20	2231	2246	494	0-144	441	441
70.70	35°33'	123°06'	X-20	1636	1651	494	0-144	225	225
70.80	35°17'	123°46'	X-20	1136	1150	461	0-141	163	163
73.50	35°36.5'	121°17.6'	X-21	0822	0833	391	0- ?	187	82
73.60	35°18'	121°58'	X-21	0311	0326	438	0-137	283	283
77.50			Not occupied						
77.55	37°52.5'	121°17.5'	X-21	1256	1311	468	0-152	258	258
77.65	34°34'	121°55'	X-21	1741	1756	468	0-149	128	128
80.51	34°26.5'	120°32.5'	X-15	1314	1321	237	0-82	110	110
80.55	34°19'	120°48'	X-15	1541	1555	488	0-148	275	275
80.60	34°09'	121°09'	X-15	1916	1931	547	0-141	282	260
80.70	33°49'	121°51'	X-16	0031	0046	515	0-146	152	152
80.80	33°29'	122°33'	X-16	0606	0620	568	0-141	32	32
80.90	33°09'	123°13'	X-16	1101	1116	482	0-148	25	25
80.100	32°48'	123°54'	X-16	1616	1631	432	0-139	42	28
85.38	34°00.5'	119°02.5'	X-14	1643	1656	400	0-78	287	232
85.40	33°54'	119°10.5'	X-14	1827	1841	447	0-151	195	195
85.50	33°40'	119°54.2'	X-14	2302	2313	342	0-111	392	392
85.60	33°17.5'	120°33'	X-15	0446	0500	492	0-147	108	108
90.28	33°29.4'	117°47'	X-14	0906	0921	473	0-141	72	72
90.30	33°25.5'	117°55'	X-14	0737	0751	432	0-153	42	42
90.37			Not occupied						
90.45	32°54.5'	118°56'	X-13	1331	1344	397	0-135	176	176
90.53	32°38.5'	119°29'	X-13	0856	0911	475	0-141	122	122
90.60	32°28'	119°51'	X-13	0510	0526	573	0-130	72	72
90.70	32°04'	120°40'	X-12	2251	2306	498	0-136	96	96
93.27	32°55'	117°21'	X-11	2246	2301	490	0-138	126	126
93.30	32°49.5'	117°32.5'	X-12	0150	0206	580	0-132	79	79
93.40	32°30'	118°12'	X-12	0651	0707	537	0-141	63	63
93.50	32°11'	118°53'	X-12	1156	1212	444	0-147	36	36
97.30			Not occupied						
97.32	32°11'	117°18.5'	X-10	0600	0616	452	0-144	75	75
97.40	31°55'	117°50'	X-10	0025	0040	436	0-139	243	197
97.50	31°35'	118°30'	X-9	1825	1841	480	0-141	100	100

Plankton Volumes, Cruise 42, October 1952 (cont'd)

Position			(1952)	Time (PST)		Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
								Total	Sm. org.
Sta.	N. lat.	W. long.	Date	Start	End	C.M.	in meters	cc.	cc.
100.29	31°42'	116°45.7'	X-7	2111	2126	381	0-148	176	176
100.30	31°40'	116°46.5'	X-7	2228	2236	260	0-73	184	184
100.40	31°19'	117°26'	X-8	0454	0510	626	0-133	88	74
100.50	31°01'	118°07'	X-8	1031	1046	448	0-141	207	207
100.60	30°41'	118°47.5'	X-8	1646	1659	482	0-142	137	137
100.70	30°20.5'	119°27'	X-8	2211	2226	422	0-138	38	38
100.80	30°01.5'	120°07'	X-9	0426	0440	504	0-126	48	48
103.30	31°04.2'	116°25'	X-8	1404	1408	(165)	0-31	158	158
103.35	30°53.8'	116°47.5'	X-8	0931	0946	544	0-120	130	121
103.40	30°45.9'	117°06.2'	X-8	0424	0440	590	0-135	122	122
107.32	30°26.1'	116°11.7'	X-8	1923	1929	(199)	0-39	161	161
107.35	30°18'	116°23.5'	X-8	2211	2227	482	0-130	126	126
107.40	Occupied. No biological data taken								
110.33	29°48.5'	115°51'	X-10	0928	0934	(194)	0-40	356	356
110.35	29°42.1'	115°55.5'	X-10	0740	0748	339	0-58	83	83
110.40	29°33'	116°16'	X-10	0346	0402	580	0-127	79	79
110.50	29°13.8'	116°56.5'	X-9	2041	2056	480	0-134	73	73
110.60	28°55'	117°37.5'	X-9	1341	1357	459	0-137	70	70
113.30	29°22.5'	115°22.2'	X-10	1439	1445	(252)	0-34	72	72
113.40	29°02'	115°58.5'	X-10	2046	2101	(446)	0-150	224	224
117.26	28°54'	114°39.5'	X-11	1133	1140	237	0-38	30	30
117.30	28°47'	114°55.8'	X-11	0858	0905	240	0-52	259	259
117.40	28°28.9'	115°37.2'	X-11	0241	0256	556	0-118	65	65
120.25	28°24.1'	114°15.7'	X-11	1623	1629	179	0-42	34	34
120.30	28°11.2'	114°35.4'	X-13	0033	0039	(242)	0-36	50	50
120.35	27°59.2'	114°56.8'	X-13	0413	0419	237	0-55	114	114
120.45	27°41.8'	115°36'	X-13	1605	1621	(561)	0-132	46	46
120.50	27°32.5'	115°51.5'	X-13	2016	2030	525	0-133	242	242
120.60	27°11'	116°30'	X-14	0301	0316	584	0-116	86	86
120.70	26°50.5'	117°09'	X-14	0931	0946	502	0-133	119	52
120.80	26°28.6'	117°47.5'	X-14	1606	1619	516	0-123	31	31
120.90	26°08'	118°25.8'	X-14	2251	2306	450	0-137	67	67
123.37	27°23.8'	114°39.3'	X-16	0708	0714	215	0-35	56	56
123.40	27°16'	114°56.3'	X-16	0421	0436	569	0-126	74	74
123.50	26°54'	115°37.2'	X-15	2056	2111	519	0-125	260	168
127.34	26°55.2'	114°06'	X-16	1353	1359	232	0-36	86	86
127.40	26°43.3'	114°29.5'	X-16	1756	1811	581	0-116	114	83
127.50	26°18.5'	115°10'	X-17	0116	0131	536	0-131	121	121
130.30	26°29.5'	113°28.1'	X-18	0458	0504	286	0-36	228	228
130.35	26°18.5'	113°43.2'	X-18	0158	0206	280	0-66	164	164
130.40	26°09'	114°05'	X-17	2221	2236	429	0-138	163	112
130.50	25°49'	114°46'	X-17	1546	1601	555	0-131	54	54
130.60	25°19.5'	115°26.5'	X-17	0926	0941	566	0-117	18	18
133.25	26°04.5'	112°48'	X-18	1038	1045	218	0-57	105	105
133.30	25°54.8'	113°07.5'	X-18	1303	1311	313	0-58	70	70
137.23	25°34.2'	112°18.6'	X-18	2223	2229	228	0-39	206	206
137.30	25°20.5'	112°44.4'	X-18	1816	1831	440	0-137	152	73

Plankton Volumes, Cruise 43, November 1952

Sta.	Position N.lat.	Position W.long.	(1952) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M. strained Total cc.	Vol.per 1000 C.M. strained Sm.org. cc.
60.55	37°47.5'	123°15'	XI-20	0148	0155	247	0-51	551	551
60.60	37°37'	123°37'	XI-20	0441	0456	480	0-144	385	385
60.70	37°17'	124°21'	XI-20	1057	1111	470	0-137	292	238
60.80	36°57'	125°04'	XI-20	1756	1811	513	0-141	127	127
60.90	36°37'	125°47'	XI-20	0036	0051	492	0-147	159	159
60.100	36°17'	126°30'	XI-21	0651	0706	557	0-138	97	97
60.110	35°57'	127°12'	XI-21	1232	1246	489	0-140	164	164
63.52	37°19'	122°36.2'	XI-19	1808	1815	232	0-54	216	216
63.55	37°14'	122°49.5'	XI-19	2006	2020	530	0-142	453	453
67.50	36°49'	122°04.6'	XI-19	1258	1305	252	0-54	198	198
67.55	36°39'	122°26'	XI-19	0911	0926	542	0-142	443	259
67.65	36°19'	123°09'	XI-19	0226	0240	521	0-139	192	144
70.51	36°10.4'	121°45.7'	XI-17	1756	1811	503	0-127	199	199
70.60	35°53'	122°23'	XI-18	0126	0141	527	0-140	294	224
70.70	35°33'	123°06'	XI-18	0836	0851	499	0-140	168	168
70.80	35°13'	123°48'	XI-18	1341	1356	507	0-139	87	87
73.50			Not occupied						
73.60			Not occupied						
77.50			Not occupied						
77.55	34°54.5'	121°13'	XI-14	2335	2351	510	0-147	161	161
77.65	34°34'	121°55'	XI-14	1621	1636	513	0-139	261	261
80.51	34°26.5'	120°32.5'	XI-12	1359	1409	334	0-58	48	48
80.55	34°19'	120°48'	XI-12	1636	1651	507	0-138	138	138
80.60	34°09'	121°09'	XI-12	2021	2036	514	0-137	93	93
80.70	33°49'	121°51'	XI-13	0256	0311	530	0-141	49	49
80.80	33°29'	122°32'	XI-13	0921	0936	497	0-142	125	24
80.90	33°09'	123°13'	XI-13	1556	1611	494	0-139	20	20
80.100	32°49'	123°54'	XI-13	2121	2136	478	0-144	59	59
85.38	34°01'	119°02.3'	XI-12	0321	0336	534	0-137	86	86
85.40	33°57'	119°10.5'	XI-12	0131	0146	523	0-133	111	111
85.50	33°37'	119°52'	XI-11	1931	1946	538	0-139	149	149
85.60	33°17'	120°33.5'	XI-11	1256	1311	484	0-142	29	29
90.28	33°28.5'	117°46.7'	XI-9	1103	1110	234	0-55	120	120
90.30	33°24.5'	117°55'	XI-9	2306	2321	532	0-142	94	94
90.37	33°11'	118°23.5'	XI-10	0316	0331	505	0-138	111	111
90.45	32°54.5'	118°56'	XI-10	0851	0906	481	0-143	92	92
90.53	32°38.5'	119°29'	XI-10	1409	1424	505	0-141	265	265
90.60	32°25'	119°57.5'	XI-10	1906	1920	519	0-136	162	162
90.70	32°04.5'	120°39'	XI-10	0121	0136	517	0-141	101	101
93.27	32°56'	117°19.2'	XI-9	0526	0541	462	0-136	593	160
93.30	32°50'	117°31.5'	XI-9	0141	0156	500	0-140	100	100
93.40	32°30'	118°12.5'	XI-8	1944	2000	584	0-135	130	130
93.50	32°10'	118°53.5'	XI-8	1331	1346	518	0-137	46	46
97.30	32°15.4'	117°08.8'	XI-7	1703	1709	238	0-38	93	93
97.32	32°11.5'	117°17'	XI-7	1841	1856	563	0-136	96	96
97.40	31°55.5'	117°50'	XI-8	0011	0026	579	0-139	155	155
97.50	31°35.5'	118°30.5'	XI-8	0646	0701	589	0-135	51	51
100.29	31°42'	116°44.5'	XI-5	2021	2032	423	0-54	118	118

Sta.	Position N.lat.	Position W.long.	(1952) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
100.30	31°40.2'	116°47'	XI-5	2126	2141	522	0-113	138	138
100.40	31°21'	117°27'	XI-6	0251	0306	604	0-109	126	126
100.50	31°01'	118°06'	XI-6	0756	0811	(483)	0-133	91	91
100.60	30°41'	118°47'	XI-6	1216	1230	438	0-140	69	69
100.70	30°20.5'	119°27'	XI-6	1721	1736	447	0-134	76	76
100.80	30°01'	120°06.5'	XI-6	2226	2241	532	0-106	60	60
103.30	31°05'	116°25'	XI-7	1924	1927	111	0-26	109	109
103.35	30°55.5'	116°45'	XI-7	1706	1720	476	0-127	59	59
103.40	30°45.5'	117°05.5'	XI-7	1426	1440	505	0-123	44	44
107.32	30°25.5'	116°12'	XI-7	2351	0006	573	0-90	101	101
107.35	30°20'	116°23'	XI-8	0156	0210	441	0-138	127	127
107.40			Occupied. Sample lost						
110.33	29°50.5'	115°52'	XI-9	0424	0428	(173)	0-35	370	370
110.35	29°39'	116°13'	XI-9	0201	0216	527	0-131	80	80
110.40	29°30'	116°33'	XI-8	2241	2256	459	0-144	83	83
110.50	29°17'	117°01'	XI-8	1801	1815	489	0-127	49	49
110.60	29°00'	117°33'	XI-8	1346	1400	466	0-136	86	86
113.30	29°22.3'	115°18'	XI-9	0909	0914	168	0-37	107	107
113.35	29°12'	115°39'	XI-9	1211	1226	426	0-149	47	47
113.40	29°02'	115°58.5'	XI-9	1526	1540	455	0-127	62	62
117.26	28°56'	114°41'	XI-10	0819	0823	118	0-39	85	85
117.30	28°48'	114°56.5'	XI-10	0607	0614	196	0-49	92	92
117.35	28°38'	115°16'	XI-9	2301	2316	495	0-112	73	73
117.40	28°28'	115°35.5'	XI-9	2016	2031	468	0-120	90	90
120.25	28°23'	114°15'	XI-10	1513	1518	165	0-44	36	36
120.30	28°13'	114°34'	XI-10	2138	2144	198	0-36	81	81
120.35	28°03'	114°54'	XI-11	0113	0122	230	0-47	113	113
120.45	27°43'	115°33'	XI-11	2326	2341	507	0-116	107	107
120.50	27°31.5'	115°51'	XI-12	0221	0236	494	0-124	61	61
120.60	27°15'	116°34'	XI-12	0721	0735	500	0-120	56	56
120.70	26°52'	117°10'	XI-12	1156	1210	460	0-144	30	30
120.80	26°32.5'	117°48.2'	XI-12	1641	1655	490	0-119	24	24
120.90	26°13'	118°28'	XI-12	2131	2146	462	0-134	43	43
123.37	27°24'	114°39.5'	XI-13	2044	2052	248	0-32	105	105
123.40	27°18'	114°47'	XI-13	1856	1910	395	0-150	61	61
123.50	26°58'	115°31'	XI-13	1416	1430	455	0-130	62	62
127.34	26°55.5'	114°06'	XI-14	0818	0824	206	0-26	407	407
127.40			Occupied. No biological data taken						
127.50	26°23'	115°08'	XI-14	1705	1720	462	0-141	108	108
130.30	26°29'	113°29'	XI-15	1508	1516	228	0-36	141	141
130.35	26°19'	113°49'	XI-15	1227	1238	392	0-110	84	84
130.40	26°14.5'	114°10.7'	XI-15	0941	0956	582	0-93	83	83
130.50	25°50'	114°46'	XI-15	0431	0446	492	0-125	138	138
130.60	25°29'	115°23.5'	XI-14	2326	2341	457	0-138	101	101
133.25	26°05'	112°48'	XI-15	1944	1947	129	0-27	232	232
133.30	25°54.5'	113°07.5'	XI-15	2218	2223	192	0-38	83	83
137.23	25°34'	112°19'	XI-16	0544	0548	154	0-32	117	117
137.30	25°20'	112°45.5'	XI-16	0241	0256	452	0-151	80	80

Stations Occupied During Special Cruises, 1952[1]

Sta.	Position N.lat.	Position W.long.	(1952) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
Cruise 38:[2]									
87.35	33°50'	118°37'	VI-13	2229	2337	251	0-71	295	295
90.28	33°28.5'	117°46.7'	VI-12	2048	2103	510	0-136	332	332
90.30	33°24.5'	117°55'	VI-6	1751	1806	538	0-135	111	111
90.30	33°24.5'	117°55'	VI-12	1848	1903	503	0-137	173	173
90.31	33°23'	117°59'	VI-12	1748	1803	477	0-143	99	99
90.33	33°19'	118°07'	VI-12	1634	1648	498	0-139	166	166
90.35	33°15'	118°15'	VI-12	1516	1531	478	0-141	211	211
90.37	33°10.7'	118°23'	VI-6	2126	2141	527	0-139	471	471
90.37	33°11'	118°23.5'	VI-12	0856	0911	519	0-139	150	150
90.39	33°06.5'	118°32.5'	VI-12	1054	1109	479	0-142	173	173
90.41	33°03'	118°40'	VI-12	1206	1221	470	0-145	283	283
90.45	32°54.5'	118°56'	VI-7	0111	0126	527	0-138	374	374
90.53	32°38.5'	119°29'	VI-7	0516	0531	494	0-144	154	142
90.60	32°25'	119°52.5'	VI-7	0901	0915	488	0-140	96	96
93.30	32°50'	117°31.5'	VI-6	1226	1241	549	0-135	113	113
93.40	32°30'	118°12.5'	VI-12	0316	0331	487	0-144	480	480
93.50	32°10'	118°53.5'	VI-11	2111	2126	497	0-140	221	221
93.60	31°50'	119°34'	VI-7	1356	1411	476	0-144	34	34
97.30	32°15.4'	117°08.8'	VI-10	1324	1328	136	0-36	7647	7647
97.32	32°11.5'	117°17'	VI-10	1433	1448	467	0-142	143	143
97.40	31°55.5'	117°50'	VI-10	1911	1926	468	0-142	94	94
97.50	31°35.5'	118°30.5'	VI-11	1135	1150	488	0-144	205	193
97.60	31°15.5'	119°10.5'	VI-7	1836	1850	500	0-139	170	170
100.29	31°42.1'	116°42.5'	VI-9	0729	0734	214	0-50	285	136
100.30	31°40'	116°46.5'	VI-9	0641	0656	534	0-135	238	238
100.35	31°30'	117°07'	VI-9	0336	0351	467	0-139	135	135
100.40	31°21'	117°27'	VI-10	2351	0006	465	0-144	150	150
100.50	31°01'	118°07'	VI-11	0552	0607	505	0-142	184	184
100.60	30°41'	118°47.5'	VI-7	2301	2316	476	0-143	126	126
103.30	31°05'	116°25'	VI-8	2148	2153	214	0-52	700	700
103.35	30°55.5'	116°45'	VI-8	1816	1831	499	0-140	138	138
103.40	30°45.5'	117°05.5'	VI-8	1526	1541	509	0-144	79	79
103.50	30°25'	117°45'	VI-8	0910	0926	501	0-142	128	128
103.60	30°06'	118°25.5'	VI-8	0346	0401	494	0-138	131	131

(1 Not all samples collected on special cruises are included. The principal omission is the three-vessel "grid" cruise made during April.

(2 Many of these stations were occupied on the regular June survey cruise, as well.

Stations Occupied During Special Cruises, 1952 (cont'd)

Sta.	Position N.lat.	W.long.	(1952) Date	Time (PST) Start	End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Sm.org. cc.
Cruise 40:(3									
113.30	29°22.3'	115°17.3'	VIII-12	0550	0554	162	0-34	49	49
113.35	29°12'	115°39'	VIII-12	0837	0851	487	0-125	49	49
115.26	29°11.2'	114°55.8'	VIII-12	1755	1759	142	0-30	731	731
115.30	29°05.2'	115°07.7'	VIII-12	1444	1452	(262)	0-65	657	657
115.35	28°55'	115°27.6'	VIII-12	1131	1147	493	0-130	276	266
117.26	28°56'	114°41'	VIII-12	2020	2025	176	0-40	932	932
117.30	28°48.2'	114°56.8'	VIII-12	2249	2253	146	0-35	652	652
117.35	28°38'	115°16'	VIII-13	0254	0301	264	0-62	329	307
117.40	28°28'	115°35'	VIII-14	0740	0754	458	0-126	378	334
118.33	28°27'	115°05'	VIII-17	0804	0811	237	0-78	135	135
118.35	28°24.6'	115°08.1'	VIII-14	0434	0442	228	0-68	412	412
118^{5}25	28°41'	114°26.7'	VIII-13	1410	1414	146	0-32	404	404
118^{5}30	28°29'	114°42'	VIII-13	1125	1133	250	0-65	312	312
118^{5}35	28°20.5'	115°04'	VIII-13	0809	0817	225	0-68	227	222
119.33	28°17'	114°53.9'	VIII-17	0605	0613	258	0-56	175	175
119.42	28°00'	115°29.2'	VIII-14	1133	1141	272	0-53	103	103
120.25	28°23'	114°14.9'	VIII-13	1816	1820	133	0-34	451	451
120.30	28°13'	114°33'	VIII-13	2039	2046	264	0-58	242	242
120.35	28°02.3'	114°54.2'	VIII-14	0127	0132	159	0-29	265	265
120.35	28°02.8'	114°54.7'	VIII-17	0206	0210	136	0-32	125	125
120.43	27°49.4'	115°27'	VIII-14	1336	1343	255	0-65	70	70
121.30	28°10'	114°28'	VIII-13	2222	2226	122	0-37	378	378
121.30	28°01'	114°27'	VIII-16	2256	2300	129	0-25	70	70
121.34	27°54.7'	114°44.7'	VIII-17	0035	0039	160	0-32	25	25
121.41	27°40.5'	115°10.5'	VIII-14	1600	1604	156	0-29	135	135
121^{3}26	28°09.6'	114°11.3'	VIII-16	2110	2111	39	0-8	25	25
121^{5}28	28°02.6'	114°16.1'	VIII-16	1022	1023	79	0-12	38	38

(3 Most of these stations are located within Sebastian Viscaino Bay.

Stations Occupied During Special Cruises, 1952 (cont'd)

Sta.	Position N.lat.	W.long.	(1952) Date	Time (PST) Start	End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Sm.org. cc.
Cruise 41:(4									
113.30	29°22.5'	115°17.5'	IX-21	1659	1703	166	0-29	60	60
113.35	29°12'	115°39'	IX-21	2050	2106	526	0-140	437	342
115.27	29°11'	114°55'	IX-22	0302	0307	179	0-28	716	716
115.30	29°05'	115°08'	IX-22	0518	0525	298	0-63	128	128
115.35	28°55'	115°27.5'	IX-22	0824	0839	514	0-138	360	360
117.26	28°56'	114°41'	IX-22	2354	0001	247	0-55	219	219
117.30	28°48'	114°56.5'	IX-22	2051	2059	208	0-71	192	192
117.35	28°38'	115°16'	IX-22	1708	1723	505	0-133	154	154
117.40	28°28'	115°35.5'	IX-22	1316	1331	489	0-138	96	86
118.33	28°27'	115°00.5'	IX-23	1510	1518	185	0-78	162	162
118.35	28°24.6'	115°08.1'	IX-23	1320	1328	246	0-72	147	147
118^{5}25	28°41'	114°26.7'	IX-23	0319	0326	192	0-58	302	302
118^{5}30	28°29'	114°42'	IX-23	0658	0706	241	0-68	17	17
118^{5}35	28°20.5'	115°04'	IX-23	1208	1216	244	0-73	37	37
119.33	28°17'	114°53.9'	IX-23	1720	1728	248	0-70	16	16
119.42	28°00'	115°29.2'	IX-26	0138	0146	246	0-72	89	89
120.25	28°23'	114°14.5'	IX-24	0426	0430	109	0-34	64	64
120.30	28°13'	114°34'	IX-24	0020	0028	212	0-69	113	113
120.35	28°03'	114°54'	IX-23	2002	2009	207	0-54	77	77
120.43	27°49.4'	115°27'	IX-26	0237	0252	453	0-143	27	27
121.30	28°01'	114°27'	IX-24	1139	1143	118	0-36	9	9
121.34	27°54.7'	114°44.7'	IX-24	1424	1429	141	0-42	21	21
121.41	27°40.5'	115°10.5'	IX-26	0521	0536	439	0-145	50	50
121^{3}26	28°09.6'	114°11.3'	IX-24	0646	0650	120	0-13	17	17
121^{5}28	28°02.6'	114°16.1'	IX-24	0809	0812	80	0-10	25	25
123.37	27°24'	114°39.7'	IX-26	1423	1430	247	0-67	121	121
127.34	26°55.3'	114°06'	IX-26	1936	1944	275	0-70	109	109
130.26	26°37'	113°13.5'	IX-27	0249	0253	149	0-35	262	262
133.21	26°12.8'	112°32.7'	IX-27	0906	0910	169	0-33	368	368
137.23	25°34.2'	112°18.7'	IX-27	1818	1825	224	0-55	76	76
140.30	24°45.5'	112°24'	IX-28	0104	0114	364	0-91	107	107
143.26	24°19'	111°48'	IX-29	0141	0148	240	0-63	624	624
147.20	23°56'	111°03.5'	IX-29	0916	0931	577	0-137	114	114
150.19	23°23.7'	110°39'	IX-29	1502	1515	441	0-114	104	104
153.16	22°55'	110°07'	IX-29	2138	2153	497	0-138	201	201

4) Stations 113.30 to 121^{5}28 located within Sebastian Viscaino Bay.

Samples from the Gulf of California without Station Number, Listed in the Order Taken

Sta.	Position N.lat.	Position W.long.	(1952) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
No. 1	22°49.5'	109°55'	IX-30	0108	0116	261	0-68	272	238
2	22°53'	109°45'	IX-30	0308	0316	278	0-66	339	303
3	23°00'	109°35'	IX-30	0503	0510	259	0-70	201	201
4	23°06.1'	109°24.5'	IX-30	0707	0715	281	0-62	231	231
5	23°19.5'	109°22'	IX-30	0936	0944	299	0-69	180	180
6	23°35.5'	109°26'	IX-30	1205	1213	298	0-66	161	161
7	23°48'	109°34.5'	IX-30	1408	1416	322	0-66	187	187
8	23°57'	109°42'	IX-30	1608	1616	378	0-53	265	265
9	24°11'	109°56'	IX-30	1803	1811	294	0-68	232	232
10	24°21'	110°07'	IX-30	2003	2010	300	0-68	306	306
11	24°30.5'	110°15.5'	IX-30	2205	2213	288	0-68	333	333
12	24°36'	110°26'	X-1	0011	0019	276	0-69	232	232
13	24°21'	110°29.5'	X-2	2043	2051	322	0-69	373	373
14	24°38'	110°38'	X-2	2340	2348	305	0-70	262	262
15	24°47'	110°38'	X-3	0115	0123	314	0-69	223	223
16	25°04'	110°46.5'	X-3	0358	0405	348	0-66	213	213
17	25°17'	110°55'	X-3	0643	0650	320	0-67	225	225
18	25°30.5'	110°59'	X-3	0828	0835	258	0-70	271	271
19	25°43'	111°10'	X-3	1043	1051	309	0-69	356	356
20	25°55.5'	111°08'	X-3	1243	1251	306	0-68	786	458
21	25°58'	111°07'	X-3	1924	1929	225	0-47	240	240
22	26°13'	111°08'	X-3	2301	2308	293	0-70	212	212
23	26°25'	111°19'	X-4	0158	0206	311	0-67	219	219
24	26°38.5'	111°30'	X-4	0458	0506	310	0-70	316	316
25	26°51'	111°42'	X-4	0733	0741	290	0-68	276	276
26	Occupied. Sample not quantitative								
27	26°54.5'	111°33.5'	X-4	2208	2216	286	0-67	329	329
28	26°39'	111°15'	X-5	0204	0212	320	0-70	219	219
29	26°21'	110°59'	X-5	0603	0610	298	0-72	275	275
30	26°03'	110°42.5'	X-5	1003	1011	313	0-69	173	173
31	25°39'	110°32.5'	X-5	1405	1413	306	0-68	268	268
32	25°17'	110°24'	X-5	1804	1812	317	0-70	253	253
33	24°55'	110°10.5'	X-5	2203	2211	320	0-69	125	125
34	24°35.5'	109°55'	X-6	0208	0215	311	0-68	318	302
35	24°15.5'	109°37.5'	X-6	0603	0611	291	0-69	103	103
36	23°53.2'	109°26'	X-6	1002	1010	307	0-70	163	163
37	23°27'	109°19.5'	X-6	1408	1415	326	0-71	166	166

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